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Workplace bullying: Validation of a measurement and the role of competition, passive avoidant leadership style, psychological contract violation and basic need frustration.

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Abstract

Workplace bullying, mobbing or harassment describe a situation where an employee is the target of systematic mistreatment by other organizational members (i.e., colleagues, supervisors, subordinates) that may cause severe social, psychological and psychosomatic problems in the targeted employee. Since the appearance of the book "The harassed worker" by Brodsky (1976) and initial studies by Heinz Leymann (1986, 1990), workplace bullying research has developed into a huge and still massively growing research area that is conducted all over the globe. Especially, when related concepts are considered, a vast amount of studies have researched prevalence, risk factors, consequences, and, very recently, psychological mechanisms of workplace bullying exposure.

A literature review revealed that existing workplace bullying exposure self-report inventories exhibit some weaknesses. Therefore, the first study (Chapter 2) aimed to develop a new short scale, the Luxembourg Workplace Mobbing Scale (LWMS) in three different language versions (i.e., Luxembourgish, French, German). Furthermore, it investigated the psychometric properties and the validity of this scale and examined if the three language versions exhibit measurement invariance. The LWMS revealed good psychometric properties in terms of its internal consistency and its factor structure. Furthermore, metric and partial scalar invariance across the three language versions could be established. Initial validation tests revealed high criterion validity of the LWMS. In line with recent workplace bullying exposure research, the LWMS was meaningfully linked with other working factors and measures of psychological health.

The second study (Chapter 3) aimed to test the LWMS's factor structure and measurement invariance across possible risk groups of bullying exposure (i.e., gender, age, and occupational groups). Moreover, based on recent theories and findings on workplace bullying the study aimed to further elucidate the LWMS's nomological net with relevant psychological (i.e., psychological well-being, work engagement, sleeping hours, suicidal thoughts) and physiological health measures (i.e., physiological health problems, alcohol and smoking consumption, body mass index) as well as with important organizational criteria (i.e., work performance, turnover intention, absenteeism) and with self-labeling victim status. Evaluation of different measurement invariance models confirm metric and (partial) scalar invariance across all compared groups. Neither age, gender, nor the most frequent areas of occupation in Luxembourg represent important risk factors for workplace bullying exposure. Regarding criterion validity, with the exceptions of alcohol and smoking consumption, all proposed

psychological and physiological health measures as well as organizational criteria are meaningfully associated with the LWMS. In summary, the LWMS is especially useful, when the identification of workplace bullying exposure risk groups or cross-cultural research is of concern.

The third study (Chapter 4) aimed to test specific organizational risk factors of the occurrence of workplace bullying. Specifically, competition and passive avoidant leadership style were tested as risk factors of workplace bullying (exposure and perpetration) assessed with two assessment methods (behavioral experience and self-labeling method). Consistent with theoretical reasoning and prior research, results demonstrated that competition as well as passive avoidant leadership style are important risk factors of workplace bullying exposure. Moreover, results showed that the same effects showed up for perpetration. Even more interesting, passive avoidant leadership style acted as a moderator on the effect of competition on workplace bullying exposure. In line with theory, competition is stronger related to workplace bullying exposure, when passive avoidant leadership is high. Thus, passive avoidant leadership style can be considered a disruptive factor reinforcing the negative association with competition. Regarding workplace bullying perpetration the same moderation effect was only found for the self-labeled assessment method.

The fourth study (Chapter 5) aimed to identify different psychological mechanisms (i.e., psychological contract violation and frustration of basic needs) that link being target of workplace bullying and health, attitudinal and behavioral outcomes. Furthermore, their relative impact and importance on different outcomes were highlighted. Psychological contract violation was an important mediator for decreased job satisfaction and higher turnover intentions, whereas frustration of autonomy mediated the effect between workplace bullying exposure and increased levels of burnout, frustration of competence mediated the effect of bullying exposure on decreased work performance and frustration of relatedness was strongly associated with decreased well-being and vigor. Results showed that feelings of psychological contract violation and frustration of basic needs accounted for unique variation in many outcome variables, pointing to the individual contribution of both psychological mechanisms.

The present thesis deepens our understanding of the organizational circumstances under which workplace bullying is more likely and the psychological mechanisms that link the bullying exposure with several outcomes. These results can guide possible prevention and intervention strategies.

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1. General introduction

In the following, the origins of workplace bullying are presented. Subsequently, the concept of workplace bullying and related phenomena are portrayed. Next, the conceptualization of workplace bullying and its defining features are described. After that, measurement issues and different methods to assess workplace bullying exposure are presented. Moreover, prevalence rates in Europe and the United States and demographic risk groups are described. Subsequently, summarizing the current research literature, risk factors of workplace bullying exposure are discussed. Then, possible consequences of being exposed to workplace bullying and potential mechanisms are described. After that, open research questions of the current workplace bullying research so far are discussed. Finally, the employed methods and research designs of the present thesis are presented.

1.1. Origin of workplace bullying

Workplace bullying, mobbing or harassment describe a situation where an employee is the target of systematic mistreatment by other organizational members (i.e., colleagues, supervisors, subordinates) that may cause severe social, psychological and psychosomatic problems in the targeted employee (Einarsen, Hoel, Zapf, & Cooper, 2011; Leymann, 1996a). The term *mobbing* was first used by the ethologist Konrad Lorenz to describe the attack of smaller animals threatening a single larger animal (2002, first published in 1963). Later, Heinemann (1972) adopted the term to describe victimization of children by a group of peers in a school setting. Therefore, mobbing (or bullying) was first systematically researched in the school context starting about 1970s with the Norwegian Dan Olweus (e.g., 1978; 1993) as one of the most prominent researchers. As a new work environment law combined with a national research fund in 1976 initiated a more systematical investigation of workplace harassment in Sweden (Leymann, 1996a), Heinz Leymann (Leymann, 1986) introduced the term mobbing in the work psychology context to describe systematic mistreatment of organizational members. Parallel, the book "The Harassed Worker" by Carroll Brodsky (1976) lead also to an increasing public attention in the phenomenon of workplace harassment, where he described the fate and stories of many employees who have been exposed to long term and systematic workplace harassment. Yet, it took until 1990s since workplace mistreatment has gained an international research interest. Leymann (1986; Leymann & Gustavsson, 1984) was the first who started research on this topic and he was also the first who developed a mobbing exposure questionnaire, the Leymann Inventory of Psychological Terrorization (LIPT; Leymann, 1990a). This initiated a wide range of workplace harassment publications in Europe (e.g., Becker, 1993;

Einarsen, 1999; Einarsen & Raknes, 1991; Leymann & Gustafsson, 1996; Niedl, 1996; Vartia, 1996; Zapf, Knorz, Kulla, 1996). With the seminal study of Einarsen, Raknes and Matthiesen (1994) who chose the term *workplace bullying* and stated that they "use the terms 'bullying' and 'harassment' interchangeably when referring to the Scandinavian term 'mobbing'", bullying became the most prominent term to describe workplace harassment (Neall & Tuckey, 2014).[1] In North America, the systematic research on workplace harassment research has its starting point in the early 1990s (Keashly, 1998; Keashly et al., 1994, 1997; see also Keashly & Jagatic, 2011).[2] At the end of the 1990, research on bullying/mobbing was so prominent that Hoel, Rayner and Cooper (1999) called it the "research topic of the 1990s". Nevertheless, the number of studies on this topic did not decline but rather did further increase (Nielsen, Matthiesen, & Einarsen, 2010). More than ten years later Hershcovis (2011, p. 499) wrote: "Over the last 15 years, research in the area of workplace mistreatment has exploded". Again, some years later, there seems still no decline in the research interest of workplace harassment and this kind of research is now conducted all over the globe. These findings are summarized in review article of different workplace harassment concepts (e.g., Aquino & Thau, 2009; Barling, Dupré, & Kelloway, 2009; Johnson, 2009; Moayed, Daraiseh, Shell, & Salem, 2006; Martinko, Harvey, Brees, & Mackey, 2013; Samnani & Singh, 2012, 2016; Neall & Tuckey, 2014; Tepper, Simon, & Park, 2017; Schilpzand, De Pater, & Erez, 2016) and meta-analysis (e.g., Berry et al., 2007; Bowling & Beehr, 2006; Mackey, Frieder, Brees, & Martinko, 2017; Nielsen et al., 2010, 2015, 2016; Nielsen & Einarsen, 2012, Hershcovis et al., 2007; Hershcovis & Barling, 2010a/b; Schyns & Schilling, 2013; Verkuil Atasayi, & Molendijk, 2015; Zhang & Liao, 2015). Since the first studies on workplace mobbing, an impressive number of studies have expanded our knowledge on the antecedents and consequences of workplace harassment exposure and perpetration and its boundary conditions.

1.2. Workplace bullying and similar phenomena

Over the past decades, scholars investigating the target's perspective have introduced many terms into the workplace harassment literature to describe negative and harmful acts directed to individuals. This includes mobbing (e.g., Leymann, 1990b), bullying (e.g., Einarsen

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[1] Bullying and mobbing is mostly used interchangeably (e.g., Einarsen et al., 2011). However, some scholars see bullying as a milder degree of abusiveness with only one aggressive person involved compared to mobbing that involves aggression from (part of) the work group (e.g., Sperry, 2009; Tepper & Henle, 2011). One reason for this seldom made differentiation between these terms might be that most of the standard instruments do not assess the number of aggressors. In the present thesis, the terms "bullying" and "mobbing" are used interchangeably.
[2] Interestingly, research in North America parallel begun to study workplace aggression from the target's perspective under labels such as *deviance* (Robinson & Bennett, 1995), *retaliation* (Skarlicki & Folger, 1997) and *revenge* (Bies, Tripp, & Kramer, 1997).

et al., 1994), incivility (e.g., Andersson & Pearson, 1999), harassment (e.g., Björkqvist, Österman, & Hjelt-Bäck, 1994), emotional abuse (e.g., Keashly, 1998), workplace mistreatment (e.g., Spratlen, 1994), social undermining (e.g., Duffy, Ganster, & Pagon, 2002), workplace aggression (e.g., Neuman & Baron, 1998), petty tyranny (e.g., Ashforth, 1994), workplace abuse (e.g., Richman et al., 1999), abusive supervision (e.g., Tepper, 2000), workplace victimization (e.g., Aquino, 2000) among others[3]. Some of these terms can be used interchangeably. However, others describe more or less well-defined concepts that have in fact key distinguish features, but also "considerable definitional, and measurement overlap" (Hershcovis, 2011, p. 500).[4] The measures of the different constructs contain overlapping items that capture ostracism, rude comments, putting someone down, and derogatory remarks among others (Hershcovis, 2011, Tepper & Henle, 2011).[5] Furthermore, all these forms of workplace harassment[6] are usually distinguished from 'typical' interpersonal conflicts between two parties (Baillien, Escartín, Gross, & Zapf, 2017). The problems associated with many overlapping concepts in the field of workplace harassment have been widely recognized (Aquino & Thau, 2009; Bowling, Camus, & Blackmore, 2015; Crawshaw, 2009; Hershcovis, 2011; Griffin & Lopez, 2005; Hershcovis & Reich, 2013; Fox & Stallworth, 2009; Matthiesen & Einarsen, 2010; Neall & Tuckey, 2014; Rai & Agarwal, 2016; Raver & Barling, 2008).[7] This proliferation of concepts impedes the ability to conceptualize the phenomenon of workplace harassment in clear and consistent terms and hinder effective collaboration among researchers working with different concepts (Crawshaw, 2009). A problem associated with the many overlapping, but somewhat different concepts has been called *jingle-jangle fallacy* (Block, 1995). A jingle fallacy describes a situation in which two concepts that are different are labeled similarly and

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[3] For even more terms, see Crawshaw, 2009.

[4] The same proliferation and overlap of constructs also exists in the research on the perpetrator's perspective such as counterproductive work behavior (Fox & Spector, 1999), workplace deviance (Robinson & Bennett, 1995), anti-social behavior (Robinson & O'Leary-Kelly, 1998), retaliation (Skarlicki & Folger, 1997) and revenge (e.g., Aquino, Tripp, & Bies, 2001).

[5] The problem of overlapping concepts is also indicated by the name change from the first (2003) to the second edition (2011) of the most comprehensive handbook on workplace bullying edited by Einarsen, Hoel, Zapf and Cooper that has its name changed from "Bullying and Emotional Abuse in the Workplace" to "Bullying and Harassment in the Workplace".

[6] Throughout this thesis, the term 'workplace harassment' is used as umbrella term to describe the different forms of psychological mistreatment for the following reason. First, it is in line with one of the first work on this topic (the harassed worker; Brodsky, 1976). Brodsky (1976, p. 2) defined workplace harassment as "repeated and persistent attempts by one person to torment, wear down, frustrate or get a reaction from another". Hence, workplace harassment does not describe isolated and one-off instances of aggression, but refer to ongoing and repeated exposure to mistreatment. Second, it also focus on psychological rather than physical aggression (but include physical intimidation). These criteria have been used in later conceptualization of workplace harassment (e.g., abusive supervision, incivility, bullying).

[7] In a recent methodological review of antecedents and consequences of workplace harassment (Neall & Tuckey, 2014), "workplace bullying" was the most used label (36%) followed by "workplace aggression" (21.3%), "workplace harassment" (10%), "workplace incivility" (9.2%) and "workplace abusive supervision" (9.2%).

are therefore incorrectly thought of as interchangeable. In contrast, a jangle fallacy occurs when two concepts that are (nearly) the same are labeled differently, and thus, are thought of as different. While a jingle-fallacy leads to wrong conclusions, a jangle fallacy impedes knowledge accumulation and theoretical development (Aquino & Thau, 2009). Charlotte Rayner put it that way: "if we forget to stand on the shoulder of giants, we stand to reinvent the wheel" (cited by Hershcovis, 2011, p. 500).

Some of the workplace harassment concepts differ theoretically, make different assumptions, and are therefore different regarding conceptualization and definition. The various concepts differ regarding the severity/intensity, perceived power imbalance, duration, repetition, intent to harm, source of harassment, consequences on attitudes and behavior of third parties and the inclusion or exclusion of physical threats and abuse (Aquino & Thau, 2009; Hershcovis, 2011). While incivility[8] is defined as a "low-intensity deviant behavior" (Andersson & Pearson, 1999, p. 457), bullying is more severe and the target usually finds it difficult to defend him-/herself against this treatment (Einarsen et al., 2003). Perceived power imbalance is a defining feature of the concepts of bullying, abusive supervision and social undermining, but is not considered as a definitional element within some other workplace harassment concepts (e.g., incivility). While workplace bullying and abusive supervision are thought of being persistent and sustained, other workplace harassment concepts do not specify a concrete period. Furthermore, incivility is characterized by "ambiguous intent to harm the target" (Andersson & Pearson, 1999, p. 457) while intent is a key feature of social undermining (Duffy, Ganster, & Pagon, 2002). With the exception of abusive supervision (Tepper, 2000)[9], other workplace harassment concepts do not specify the source of harassment. Moreover, while most workplace harassment concepts separate the occurrence of negative acts and influence on attitudes and behavior of third parties, social undermining assumes that these acts negatively affect specific outcomes such as relationships, reputation and work-related success of the target (Duffy et al., 2002). Finally, some workplace harassment concepts include physical violence (e.g., bullying), while others explicitly exclude it (e.g., abusive supervision). However, most of these differences usually do not appear in the operationalization and measurement of these constructs (Hershcovis, 2011). For instance, power imbalance is a defining feature of workplace bullying. However, it is not implemented in the most frequent measures (e.g., Leymann Inventory of Psychological Terror; Leymann, 1990a; Negative Acts Questionnaire; Einarsen, Hoel, & Notelaers, 2009). Social undermining is conceptualized as being detrimental to the

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[8] For a recent review on incivility, see Schilpzand et al., 2016.
[9] For a recent review on abusive supervision, see Tepper et al., 2017.

target's relationships, yet, this is not assessed within the measurement (Duffy et al., 2002). Therefore, it is not very surprising that a meta-analysis (Hershcovis, 2011) revealed nearly no differences in the size of correlations between different workplace harassment exposure measures (i.e., incivility, abusive supervision, bullying, interpersonal conflict) and different outcomes (i.e., job satisfaction, turnover intentions, psychological well-being, physical well-being, affective commitment). Moreover, Kowalski, Toth and Morgan (2018) found a correlation of $r = .77$ between workplace bullying exposure and exposure to incivility, indicating the strong relatedness of the two constructs. Therefore, Hershcovis (2011, p. 512) recommends "to remove the overlapping definitional features of different forms of aggression, and instead consider these as contingencies that help explain when, why, and how workplace aggression will affect outcomes and coping strategies". She suggests that future studies should research the conceptual differences as moderator variables (e.g., source of aggression, intent, power, persistence, intensity, overtness) between aggression and various outcomes.[10] Indeed, some studies using this approach have found interesting results. For instance, Hershcovis and Barling (2010a) showed in a meta-analysis that aggression from supervisor is more detrimental to various health, work-related attitudinal and behavioral outcomes than aggression from coworkers or from people outside of the organization (e.g., customers). This is also supported by findings of Török et al (2016) who found that the association between workplace bullying exposure and depressive symptoms was stronger, when the targets were exposed by their supervisors compared to colleagues and clients as perpetrators. Moreover, Chang and Lyons (2012) found that the mechanisms that linked being target of workplace aggression and employee morale (viz job satisfaction and affective commitment) depend on the source of aggression. Different attempts and suggestions have been made on how to conceptualize, differentiate, integrate and reconcile the different workplace harassment constructs (e.g., Aquino & Thau, 2009; Bowling, Camus, & Blackmore, 2015; Hershcovis, 2011; Tarraf, Hershcovis, & Bowling, 2017; Tepper & Henle, 2011). However, this is still a topic under debate.

1.3. Workplace bullying conceptualization

Although there is no definitive list of bullying behaviors, bullying contains *different negative acts* that range from subtle acts such as spreading of rumors, personal jokes, withholding critical information, and ostracism (i.e., social exclusion and isolation) to overt

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[10] For a contrary view, see Tepper and Henle, 2011.

acts, such as insults, being shouted at, told to quit one's job, and even threat of violence (Einarsen et al., 2011). Several attempts have been made to categorize the different negative acts involved (Bartlett & Bartlett, 2011; Brodsky, 1976; Einarsen et al., 2009; Einarsen & Raknes, 1997; Leymann, 1996a; Notelaers, Hoel, van der Heijden, & Einarsen, 2018; Vartia, 1996; Zapf, Knorz, & Kulla, 1996). Einarsen et al. (2011) point to three distinctions that are usually made. Negative acts can vary regarding the directness and obviousness ranging from passive, subtle, indirect to active, direct and overt acts. While social exclusion is a subtle and indirect negative behavior, verbal threats are very direct and overt negative acts. Furthermore, the negative acts can be categorized into work-related acts such as criticism of work, excessive monitoring of work, and assigning excessive workloads, and into person-related forms such as belittling, personal jokes, and gossip. Another distinction is made between physiological and psychological mistreatment with a broad agreement that the negative acts involved are mainly of psychological rather than physiological nature (Einarsen et al., 2011).

While there is general agreement that workplace bullying can manifest in different forms of negative acts that are perceived as negative and inappropriate by the target and that workplace bullying causes psychological and emotional harm, scholars debate whether duration (or persistence), power imbalance, intent of the perpetrator and labeling oneself as bullied are essential criteria of workplace bullying (e.g., Hoel, Rayner, & Cooper, 1999; Rayner, Hoel, & Cooper, 2002; Rayner & Keashly, 2004; Saunders, Huynh, & Goodman-Delahunty, 2007). The rationale to determine a *duration* criterion is to exclude temporary conflicts (Leymann, 1990b). However, the duration is set quite arbitrarily (Agervold, 2007). Studies have implemented different time periods within the negative acts must occur to qualify as bullying behavior. Vranjes, Vanhoorne, Baillien and De Witte (2017) found in a literature review of workplace bullying studies that 18 studies used a 6-month period, while two studies referred to a 12-month period and 12 studies did not operationalize the duration criterion at all. However, there is a lack of evidence that duration is a useful criterion. For instance, examining lay definitions, Saunders et al. (2007) found in a diverse workforce sample that only 14.7% of the respondents included persistence as a criterion of workplace bullying. Furthermore, Hansen, Hogh and Persson (2011) found no association between bullying duration and the amount of salivary cortisol, a physiological response to stress. However, they found an association between the amount of salivary cortisol and the frequency of bullying. Moreover, in a qualitative semi-structured interview study with working professionals, Vranjes et al. (2017) found that most professionals disagree with the 6-month criterion and judged it as to long, especially, when they referred to personal (compared to work-related) negative acts. Additionally, the most frequent

used bullying instrument, the NAQ-R (Einarsen et al., 2009), cannot differentiate between frequency and duration of certain negative acts. The instruction text of the NAQ-R asks how often the respondent had been subjected to negative acts and refers to the "last six months" with "Never", "Now and then", "Monthly", "Weekly" and "Daily" as answer categories. How should a person answer when he/she has become the target of daily negative acts starting one month before the assessment? Should he/she average the number of negative acts and come up with the answer "Weekly"? More interesting from an empirical point of view is the question how will different persons answer this question?

Regarding *power imbalance*, this component has also been frequently specified as a crucial element of the workplace bullying experience. Indeed, some studies found that the supervisor – who has per definition more formal power than the respective person – was the most frequent source of workplace bullying (Hoel, Cooper, & Faragher, 2001), and most studies found that subordinates are much less frequent perpetrators compared to supervisors and colleagues (Ortega, Høgh, Pejtersen, & Olsen, 2009; Einarsen & Skogstad, 1996; Hoel, 2001). A possible explanation for these findings is that targets may feel more vulnerable if the perpetrator is someone who possess more formal power than the targets themselves (Aquino, Grover, Bradfield, & Allen, 1999; Zapf, Escartín, Einarsen, Hoel, & Vartia., 2011). However, Nielsen, Gjerstad, Jacobsen and Einarsen (2017) found that the ability to defend oneself only moderated the association between exposure to workplace bullying and anxiety, when exposure to workplace bullying was low.

With respect to *intent*, some scholars have considered the perpetrator's intent as a crucial element of workplace bullying (e.g., Björkqvist et al., 1994) while others have disclaimed its role as key feature (e.g., Einarsen et al., 2011). Intent is problematic from a theoretical and a methodological point of view as it is not clear to which intent is being referred to (e.g., to the single negative act, to the whole bullying process) and because intent of the perpetrator might be difficult to measure (Einarsen et al., 2011). What can be more easily measured is the *perceived* intent of the perpetrator from the target's perspective. Eschleman et al. (2014) showed that the association between abusive supervision and counterproductive work behavior is moderated by the perceived (hostile and motivational) intent of the supervisor.

Regarding *self-labeling* as criterion for workplace bullying, some scholars see the subjective perception of being victimized at the core of workplace bullying (Niedl, 1995). However, others have argued that targets might be reluctant to label themselves as being victimized or being "bullied" as this label has negative connotations of failure and self-blame

(Salin, 2001). Moreover, targets might not be aware of more subtle bullying experience (Saunders et al., 2007). However, self-labeling may play a role for the outcome of workplace bullying exposure. For instance, Vie, Glasø and Einarsen (2011) found that self-labeling as bullying victim partially mediated and moderated the association between exposure to negative acts and subjective health complaints. They conclude that labeling oneself as bully victim may only play a role, when exposure to workplace bullying is low.

Yet, researchers of workplace bullying usually refer to the following prominent definition: "Bullying at work means harassing, offending, or socially excluding someone or negatively affecting someone's work. In order for the label bullying (or mobbing) to be applied to a particular activity, interaction or process, the bullying behavior has to occur repeatedly and regularly […] and over a period of time […]. Bullying is an escalating process in the course of which the person confronted ends up in an inferior position and becomes the target of systematic negative social acts. A conflict cannot be called bullying if the incident is an isolated event or if two parties of approximately equal strength are in conflict" (Einarsen et al., 2011, p. 22).

Some scholars have criticized the concept of workplace bullying because of its conceptualization and operationalization as a *formative measurement* (Hershcovis & Reich, 2013). If the theoretical different forms of workplace bullying represent independent constructs, aggregating different negative acts to create an overall workplace bullying measure is inappropriate because it treats each form of negative act as interchangeable and assumes that it is irrelevant for the target's health, attitude and behavior whether he/she gets confronted with ostracism and isolation or overt acts like being shouted at (Ferris, Brown, Berry, & Lian, 2008; O'Reilly, Robinson, Berdahl, & Banki, 2015; Robinson, O'Reilly, & Wang, 2013; Robinson & Schabram, 2017). This may be problematic, as some scholars have argued that ostracism is different from other forms of harassment and describes "the omission of positive attention from others rather than the commission of negative attention" (Robinson et al., 2013, p. 208). However, Notelaers et al. (2018) showed with a latent class cluster approach that no clear differentiation between kinds of negative acts appeared. Instead, they found four cluster that they labeled "not bullied", "infrequent criticism about work", "occasionally bullied" and "severe target of bullying". The "not bullied" employees reported nearly no negative acts, while employees in the "infrequent criticism about work" cluster reported seldom negative work-related acts such as criticism, repeated reminders of error and withholding information. Employees in the "occasionally bullied" and in the "severe target of bullying" cluster were only different regarding the frequency of negative acts but not in the kind of negative acts. They

were exposed to ostracism as well as overt acts of aggression. Therefore, Notelaers et al. (2018) recommend bullying researchers to be careful with respect to differentiate between the kinds of negative acts. Notelaers et al. (2018, p. 21) also state that there "[…] are indeed different types of negative social behaviours, yet, our results indicate that this does not mean that one can distinguish between different forms of bullying as such. Only severe targets have a high likelihood to experience them repeatedly. The latter coincides strongly with the definition of workplace bullying as repeated and systematic negative behaviour during a longer period of time".

1.4. Measurement, workplace bullying exposure, prevalence, and risk groups

1.4.1. Measurement issues

According to the theoretical definition of workplace bullying, a measurement instrument should assess exposure to negative acts, regularity and persistency of these acts, the process development of workplace bullying, and the power imbalance between target and perpetrator (Nielsen, Notelaers, and Einarsen, 2011). Yet, self-report measurement so far, do not capture all of these definitional elements, with the consequence of a gap between theoretical and operational definition of workplace bullying that may threat validity (e.g., Nielsen et al., 2011).[11] Two self-report assessment approaches of workplace bullying exposure can be distinguished: The *self-labeling method* asks the respondents whether they have been exposed to workplace bullying either with or without a given definition. The *behavioral experience method* inquires how often the employee was exposed to certain negative acts. The self-labeling method has the advantage that it does not take up much space in a questionnaire and is easy to administer. Its most critical drawback is, however, that it does not offer any insights in the kind of negative acts the subject is exposed to (Nielsen et al., 2011). Therefore, the self-labeling method is a very subjective approach as respondents may have different personal thresholds for labeling themselves as victims (Nielsen et al., 2011).[12] Personality, emotional and cognitive factors, as well as misperceptions can introduce biases. Because labeling oneself as victim is associated with feelings of shame and reduced self-esteem, respondents may avoid self-labeling even though their experience correspond with the formal definition of workplace bullying. This may be even more critical when groups are compared that differ in this respect. For instance, perception of masculinity may affect the thresholds for self-labeling, with the consequence that

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[11] See also Jex and Bayne (2017) for general suggestions to improve workplace aggression/harassment scales.
[12] This may be even more critical, when respondents are not offered a definition of workplace bullying (Nielsen et al., 2011), because academic and layperson definitions can be quite different (Saunders et al., 2007).

men could be less likely to label themselves as victims than women (Nielsen et al., 2011). In contrast, the behavioral experience method that capture a range of different negative acts (e.g., being put down, being ostracized) is less amenable by social desirability and does not lead to an artificial either/or outcome, but can differentiate different degrees of exposure to workplace bullying. Furthermore, the behavioral method is thought, "to provide a more objective estimate of exposure to bullying behaviours than self-labelling approaches, as respondents' need for cognitive and emotional processing of information would be reduced" (Einarsen et al., 2009, p. 27). The self-labeling and the behavioral experience method may display the difference between a target and a victim of bullying behavior. According to Nielsen et al. (2011), an employee is a target of bullying when he/she is exposed to negative acts without necessary the feeling of being victimized, whereas an employee becomes a victim of bullying when he/she has no longer the ability to defend him/herself against the negative treatment.[13] This differentiation points to the fact that there are subjective interpretations of the experienced negative acts (Baumeister et al., 1990) and that targets of bullying may differ from victims in certain aspects (Jennifer et al., 2003). Two of the most known and most widespread workplace bullying exposure questionnaires utilizing the behavioral experience method are the Leymann Inventory of Psychological Terror (LIPT; Leymann, 1996b) and the Negative Acts Questionnaire-Revised (NAQ-R; Einarsen, Hoel, & Notelaers, 2009). Three different approaches are used with data from the behavioral experience method to assess the occurrence of workplace bullying. Perhaps the most often used approach is *averaging the items* to get an overall score of bullying that is then used as a continuous measure in correlation or regression analyses (e.g., Baillien et al., 2016). Furthermore, a certain *operational criteria* is applied, for instance at least one negative act per week over a period of six months (Leymann, 1996a).[14] However, as the use of operational criteria has been criticized (e.g., arbitrariness; reduction to an either-or phenomenon), a third approach has been proposed, i.e., *latent class* cluster analysis that is able to differentiate certain subgroups of workplace bullying exposure (Notelaers et al., 2006; Leon-Perez, Notelaers, Arenas, Munduate, & Medina, 2014; Giang & Graham, 2008).

The behavioral experience method takes the kind, frequency and duration of the negative acts into account. However, the power imbalance criteria that is captured by the self-

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[13] However, this differentiation is seldom made and operationalized in the literature, and the two concepts are often blurred.

[14] Averaging the items and the use of the operational criteria treat every negative act statistically equivalent. Therefore, this procedure assumes that the different negative acts are roughly equal in severity and interchangeable with respect to the outcome (e.g., impaired health, negative attitudes; Hershcovis & Reich, 2013). Indeed, factor analytical evidence of the standard instruments often shows that a one-factor model has an acceptable fit and that different forms are most of the time highly correlated and share nomological networks (e.g., Einarsen et al., 2009).

labeling method (with definition) is not assessed with the behavioral experience method. Furthermore, it does not capture the perception of the respondent who might or might not label his/her experience as bullying (Nielsen et al., 2011). Moreover, most of the standard instruments (e.g., LIPT, NAQ-R) do not assess the source of the negative acts.[15]

1.4.2. Workplace bullying exposure and prevalence around the globe

Because of the different measurement techniques (i.e., self-labeling vs. behavioral experience method), the different measurement instruments (e.g., LIPT, NAQ-R) and different duration criteria (e.g., last 6 months, last 12 months, no specification of time frame), comparing workplace bullying exposure and prevalence between different studies are not straightforward (Agervold, 2007; Nielsen et al., 2011; Zapf et al., 2011). The prevalence of workplace bullying depends on many factors, such as measurement method, timeframe, geographic area and gender ratio of the employees (Hogh, Conway, Mikkelsen, 2017) among others. Nielsen et al. (2010) conducted a meta-analysis with 102 prevalence estimates of bullying from 86 independent samples to evaluate the impact of methodological moderators on prevalence rates. They found an average prevalence estimate of 14.6%. Yet, the different measurement techniques provided different prevalence estimates with the highest prevalence rate for studies using self-labeling method without a given definition (18.1%), followed by the behavioral experience method using the so called Leymann-criterion (i.e., at least weekly exposure for at least six months; 14.8%) and the self-labeling method with a given definition (11.3%). Further moderator variables were sampling method (random vs. non-random sample) and geographical factors. Therefore, it is not surprising that estimates vary extensively both within (Nielsen et al., 2009) and between countries (Nielsen et al., 2010). For instance, while representative studies in Denmark (Ortega et al., 2009), France (Niedhammer, David, & Degioanni, 2007), Spain (Escartín, Rodriguez-Carballeira, Porrúa, & Martín-Peña, 2008), UK (Hoel et al., 2001), Italy (Campanini et al., 2008) and Germany (Meschkutat et al., 2002) reported prevalence rates between 5.5% (Germany) and 11.9% (France), a study on Turkish with-collar workers reported a prevalence of 51% (Bilgel, Aytac, & Bayram, 2006). In the U.S., a recent study found a prevalence of about 9% (Namie, 2017). Nevertheless, reviewing a large amount of studies, Zapf et al. (2011) concluded that 3-4 percent of employees in Europe are subjected to serious bullying

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[15] Of course, this could be fixed by adding an additional question about the perpetrator or specify the instruction text by asking for a specific perpetrator (e.g., "How often have you been subjected to the following negative acts at work by your colleagues?"). However, a question about the perceived perpetrator may be imprecise (as it does not obtain which negative act comes from which perpetrator) and specifying the instruction text would then exclude other possible perpetrators (e.g., supervisor) or would require to ask the same block of items for other actors.

behavior, while 10-15% are subjected to some degree of workplace bullying behavior (i.e., less often than weekly).

The publicly accessible European Working Condition Survey (EWCS) 2015 also provides information of workplace bullying prevalence rates across Europe[16]. The survey implemented a self-labeling approach with no definition of bullying/harassment. The percentage of self-labeled victims range between 0.1% (Bulgaria) and 12.2% (France) across the countries (Figure 1-1). Some of these prevalence rates are quite different compared to some other national studies, for instance Turkey (e.g., Bilgel et al., 2006) and in some countries (e.g., Albania, Bulgaria) the prevalence rates are unreasonable low.[17] However, there are also some countries, where the prevalence rates fit very well to other studies, for instance Finland (Vartia, 2010), Denmark (Ortega et al., 2009), Germany (Meschkutat et al., 2002), France (Niedhammer et al., 2007), Ireland (O'Connell, Calvert, & Watson, 2007) and Norway (e.g., Glasø, Nielsen, & Einarsen, 2009).[18] These cross-cultural comparisons are very challenging, especially with the self-labeling approach without definition, for several reasons. First, as cultural values are manifested in behavioral rules that prescribe the expected and appropriate behavior, employees in different countries assign different meanings to the same behavior (Li & Lim, 2017). Thus, there might be cultural differences in the acceptability and perceived severity of different negative behaviors (Severance et al., 2013) in the workplace. Therefore, the countries may differ with regard to the awareness and recognition of workplace bullying (Vartia-Väänänen, 2013). Moreover, while workplace bullying has been researched and discussed for a long time in the Scandinavian countries, even with statutory provision in Sweden (AFS 1993)[19], other countries have no such research tradition and public discussion.[20] Therefore, respondents in countries with no discussion about workplace bullying and harassment may not know the

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[16] This survey assessed and quantified working conditions of employed and self-employed individuals across Europe (European Foundation for the Improvement of Living and Working Conditions, 2017; for survey details see Eurofund, 2015a). The target population was comprised of residents who had worked for pay or profit for at least one hour in the week preceding the interview. The 2015 survey covered the then EU28 countries, Norway, Switzerland, Albania, the former Yugoslav Republic of Macedonia, Montenegro, Serbia, and Turkey between February and September 2015 (December 2015 in Albania, the Former Yugoslav Republic of Macedonia, Montenegro, Serbia, and Turkey). The survey was conducted in all countries via computer-aided personal interviewing at respondents' homes. Sample selection was based on a multi-stage process resulting in a complex survey sampling. Therefore, a weighting variable was used that accounts for unequal sample selection probability and adjusts the sample so that it reflects the socio-demographic structure of the target population (post-stratification, Eurofund, 2015b).
[17] The differences between the bullying prevalence rates of the EWCS 2010 and other national studies have already been discussed (see Vartia-Väänänen, 2013).
[18] However, one also has to be careful with the comparisons as sometimes (slightly) different criteria for workplace bullying were used.
[19] The success of this ordinance, however, seems debatable (Hoel & Einarsen, 2010).
[20] For a general discussion on developments in international law regarding bullying and harassment, see Cobb, 2017.

criteria that constitute bullying behavior and may classify it as 'normal' behavior. Indeed, Power et al. (2013) found in a cross-cultural study with 14 countries, that Poland had the highest mean scores for acceptability of different negative acts drawn from the NAQ-R. Furthermore, cultural factors are associated with different response styles (e.g., Johnson, Kulesa, Cho, & Shavitt, 2005). Finally, as has been already discussed, the self-labeling approach is more prone to social desirability. Especially in countries with high masculine orientation (Hofstede, 1998, 2001), employees may be less likely to report being victimized (Nielsen et al., 2011). The effect might get exacerbate within personal interviews that was used as data collection method in the EWCS 2015. Therefore, the behavioral experience method might be a better approach to assess workplace bullying exposure within a cross-cultural context. However, as cultural factors and socialization shapes employee's perception and appraisal of aggressive and negative acts, what is perceived as aggression and bullying behavior in one context might not (or to a lesser degree) be seen as such in another context (Li & Lim, 2017). This points to the question of measurement invariance of the workplace bullying exposure instruments across different cultures (Vandenberg & Lance, 2000).

Figure 1-1. *Percent of self-labeled bullying victimization during the past 12 months in European countries.*
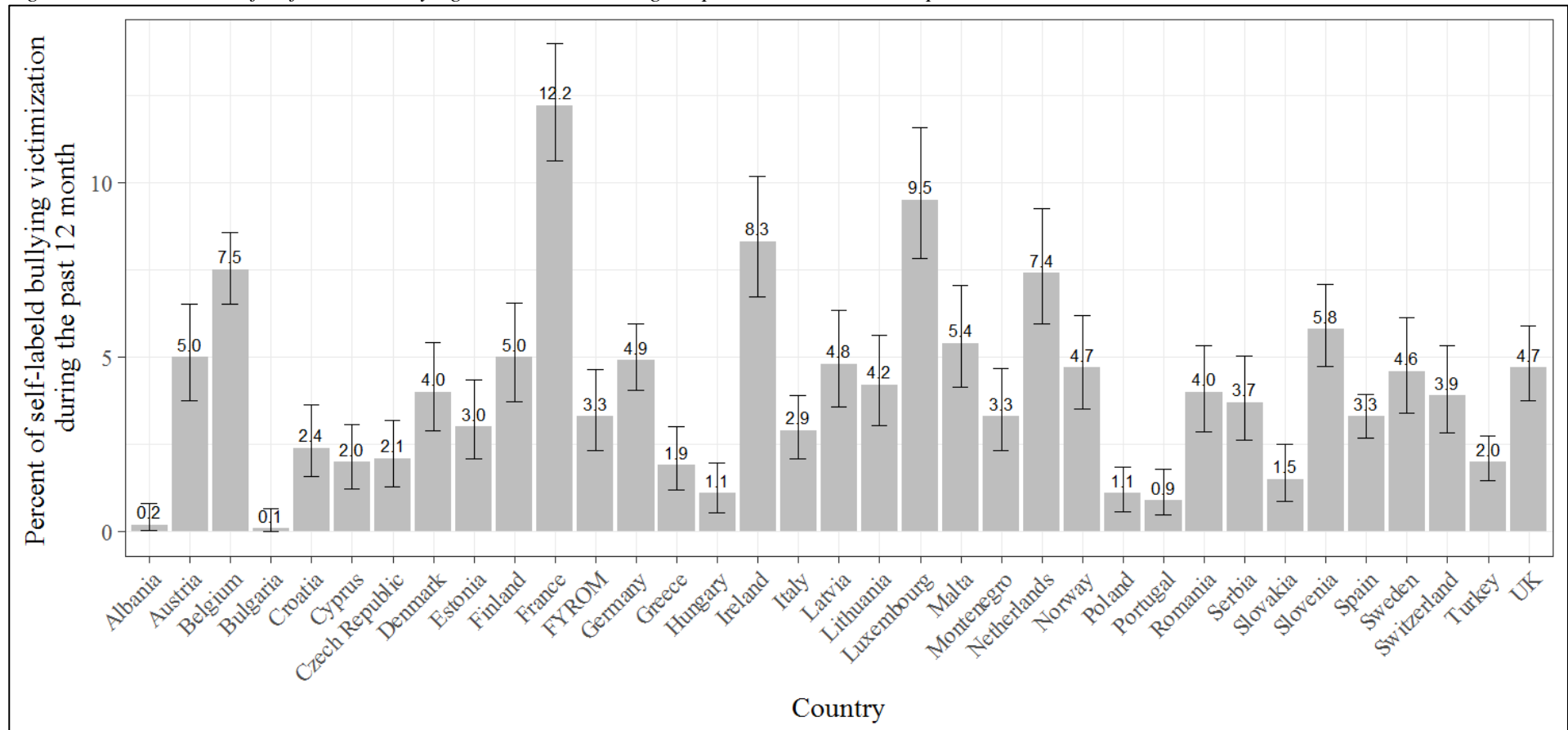
Notes. European Working Condition Survey 2015, own calculations. Indicator: Over the past 12 months, during the course of your work have you been subjected to any of the following? Bullying/harassment? Answer categories: No/Yes.

1.4.3. Risk groups of workplace bullying exposure

Regarding *gender* as risk factor for being exposed to workplace bullying, most studies found that women were at higher risk. Drawing on a representative sample of French employees, Niedhammer et al. (2007) reported, that female employees had been more at risk of being bullied within the last 12 months compared to their male counterparts. Salin (2015) also found in a representative sample of Finnish employees that women were at higher risk of becoming a target of workplace bullying compared to men. In a representative sample of Norwegian employees Hauge, Skogstad and Einarsen (2009) reported a small gender effect with women being more exposed to workplace bullying. In contrast, in a representative sample of Danish employees, no gender differences were found (Ortega et al., 2009). In a representative sample of British worker, Hoel et al. (2001) reported only minor differences between men and women, with women have a slightly higher risk of being bullied.

However, more important than gender as a main factor seems the workplace context (Zapf et al., 2011; Eriksen & Einarsen, 2004). Gender seems to be a risk factor under certain conditions. Women working in male-dominated working sectors or organizations seem to have a higher risk of being victimized than males, especially in work environments with strong masculinity norms like fire service (Archer, 1999) or military (Koeszegi, Zedlacher, Hudribusch, 2014). On the other hand, men working in female-dominated working sectors such as nursing profession or childcare are at higher risk of being exposed to negative acts than women (Eriksen & Einarsen, 2004; Lindroth & Leymann, 1993). Therefore, not gender per se but *gender minority* might be a risk factor of workplace bullying exposure (Eriksen & Einarsen, 2004). The same holds true for *other minorities* at the workplace, for instance, based on ethnic (Lewis & Gunn, 2007; Fox & Stallworth, 2005), sexual orientation (Einarsdóttir, Hoel, & Lewis, 2015) or disability (Fevre, Robinson, Lewis, & Jones, 2013). Concerning *age*, no relationships were found in the studies from Salin (2015), Ortega et al. (2009) and Hauge et al. (2009).

Regarding *organizational status* of the target, the few existing studies investigating this possible risk factor (Hoel et al., 2001; Ortega et al., 2009) indicating mixed results. Ortega et al. (2009) found a significant difference between different organizational status groups (i.e., unskilled workers: 10.7%, skilled workers: 9.5%, salaried staff and public servants: 7.7, managers/supervisors: 5% and others: 12.3) with managers/supervisors reporting the lowest

and unskilled workers reporting the highest prevalence of bullying[21]. In contrast, Hoel et al. (2001) found similar percentages of bullying incidents for workers, supervisors and middle and senior management.

Regarding *occupation*, some working sectors seem to be more affected by workplace bullying than others. Zapf et al. (2011, p. 86) summarize about a dozen studies: "Taking the studies together, a high risk of being bullied is reported for the social and health, public administration, and education sectors, which all belong to the public sector". Putting this together one could summarize that neither gender, age nor organizational status play a major role in the occurrence of workplace bullying but can become more important under certain conditions and occupations (e.g., gender minority). However, important to note is that the comparisons of these risk groups hinge on the assumption that manifest mean levels are meaningfully comparable across subgroups (e.g., between men and women).

1.4.4. Risk groups of becoming perpetrator

Studies on demographic characteristics of perpetrators are sparse, as most large-scale representative studies take a target perspective and do not ask for source of perpetration or own perpetration. However, few studies indicate that men seem to engage more often in workplace bullying than women (Einarsen & Skogstad, 1996; Rayner, 1997; Meschkutat, et al., 2002). This is also in line with findings from meta-analyses on workplace aggression (Hershcovis et al., 2007) and interpersonal deviance (Berry et al., 2007). An explanation could be that men engage more often in direct aggression, while women engage more often in subtle, indirect aggression that is not always perceived as bullying behavior. Another explanation could be that men are overrepresented in supervisor positions that are also more likely to engage in bullying behavior (Zapf et al., 2011). Very few studies exist, regarding age as risk factor for workplace bullying perpetration. Baillien, De Cuyper and De Witte (2011) found in a sample of two large organizations (textile industry and financial services) in Belgium that age was negative related to workplace bullying perpetration. However, as most studies investigating demographics of perpetrators are not representative, these finding should be regarded with great cautious. Ortega et al. (2009) found in their representative sample of Danish employees that the most frequent reported source of workplace bullying perpetration was co-workers (71.5%), followed by superiors (32.4%), clients/patients/costumers/pupils (11.3%) and subordinates (6%). Einarsen and Skogstad (1996) found in a large ($n = 7986$, non-representative) sample of Norwegian

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[21] However, as they did not make pairwise comparison, or report confidence intervals, one cannot know which other groups differ significantly.

employees that targets reported being exposed to negative acts by superior as often as they reported being exposed by colleagues. In contrast, a study with a representative sample in the UK (Hoel et al., 2001) found that people in superior positions are the major source of bullying (74.7%), followed by co-worker (36.7%), clients (7.8%) and subordinates (6.7%). Therefore, some national differences seem to exist.

1.4.5. Conclusion and lack of research

The assessment of workplace bullying exposure is a critical task. However, the often employed self-labeling method has some weaknesses and may underestimate (or overestimate) the level of exposure, especially when the respondents get no definition of workplace bullying provided. Therefore, many workplace bullying exposure inventories and scales utilizing the behavioral experience method have been developed (see Nielsen et al., 2011 for an overview). Two of the most known and most widespread questionnaires are the Leymann Inventory of Psychological Terror (LIPT; Leymann, 1990a, 1996b) and the Negative Acts Questionnaire-Revised (NAQ-R; Einarsen et al., 2009). The LIPT consists of a list of 45 negative acts asking whether employees have experienced them within the last 12 months (Leymann, 1996b). The NAQ-R consists of a list of 22 negative acts relating to workplace bullying (Einarsen et al., 2009). However, the existing workplace bullying exposure scales have some weaknesses that may be pointed out: Both the LIPT and the NAQ-R (and most of their modified versions) are (still) *rather long* for practical issues and difficult to employ in large-scale multi-topic surveys. The existing short workplace bullying exposure instruments (e.g., Simons, Stark, &, DeMarco, 2011) usually have been tested only in a selective sample (e.g., nurses), and therefore, may *lack of generalizability*. Furthermore, many instruments are lacking profound tests of psychometric properties (Einarsen et al., 2009; Nielsen et al., 2011). Moreover, many workplace bullying exposure questionnaires contain behaviors that might constitute a necessary part of work (e.g., workload, being transferred). These working-related necessities might not always be related to bullying; in certain occupations, having to respect tight deadlines is simply part of the job, and employees might be transferred due to restructuring of the company as a consequence of financial hardship (Agervold, 2007).

Most importantly, none of these scales was tested for measurement invariance across different language versions that is a required condition to allow for comparisons across different cultural groups (Vandenberg & Lance, 2000). For instance, measurement non-invariance could emerge because the translation of one or more item is improper (Chen, 2008). If measurement invariance has not been tested, differences between groups cannot be unambiguously attributed

to 'real' differences but may be differences in the measurement attributes (Steinmetz, 2013). The same is true for the comparisons of employees with different work characteristics. A critical task in the workplace bullying research concerns the identification of possible risk groups (e.g., Mikkelsen, & Einarsen, 2001; Ortega et al., 2009). For instance, it is discussed whether women are more exposed to workplace bullying than men are (e.g., Salin & Hoel, 2013), whether younger employees are more exposed than older employees are (e.g., Quine, 1999), and whether there are differences regarding the work sectors (e.g., Niedhammer et al., 2007). However, none of the existing workplace bullying scales has been tested for measurement invariance across these groups, leaving the comparison questionable. Non-invariance between groups could emerge if (a) the conceptual meaning or understanding of the construct differs across groups, if (b) groups differ regarding the extent of social desirability or social norms, if (c) groups have different reference points, when making statements about themselves, if (d) groups respond to extreme items differently, if (e) particular items are more applicable for one group than another (Chen, 2008). A lack of measurement invariance for different workplace bullying exposure instruments across different groups might be possible, as the same negative behavior might be differently perceived across different groups. These perceptive differences could stem from different socialization, group norms, social expectations, as well as different power imbalance perception (Cortina & Magley, 2009; Salin & Hoel, 2013). For instance, men's perception of masculinity may affect the perception of what behavior depicts "being ridiculed" (Einarsen & Raknes, 1997) and this could substantially differ from women's perceptions. Therefore, gender differences due to differential sensitivity to classify certain experiences as bullying behavior are plausible (e.g., Salin, 2003a). For the same reason, one could also expect a lack of invariance for different age groups due to cohort socialization effects. Furthermore, different occupational norms might influence the perception of appropriate behavior standards across different occupational fields (Parzefall & Salin, 2010; Salin & Hoel, 2011).

1.5. Risk factors of workplace bullying

The occurrence of bullying is characterized by multicausality, and involves a range of factors that can be identified at many explanatory levels (Einarsen et al., 2011). Scholars investigating workplace bullying have used different conceptual models to explain its occurrence. While Leymann (1990b, 1996a) emphasized the role of organizational and work-related factors (the so called 'work environment hypothesis') other researchers have stressed the importance of the characteristics of the perpetrator (e.g., Baughman et al., 2012) and/or the target (e.g., Aquino & Bradfield, 2000), while some point to the social context and the dyadic

interactions of the target and the perpetrator(s) (e.g., Aquino & Lamertz, 2004). Recently, scholars have also referred to explanations on the societal and cultural level (e.g., Van de Vliert, Einarsen, & Nielsen, 2013). A helpful distinction in this context has been made by Einarsen (1999), who introduced the concepts of predatory bullying and dispute-related bullying. Predatory bullying describes a bullying incident where the target has done nothing provocative that may reasonable justify the perpetrators' behavior. In this scenario, the target is accidentally in a situation where a predator is demonstrating power or is trying to exploit a target into compliance. In contrast, dispute-related bullying describes a bullying scenario that occurs as a result of an escalated interpersonal conflict. Therefore, the concept of dispute-related bullying emphasizes a conflict escalating perspective (Glasl, 1994; Zapf & Gross, 2001) where both parties wanted to cooperate at the beginning, but after a while, finding themselves in a more and more intensified emotional conflict. In a certain phase of the interpersonal conflict the identity of the protagonists may at stake (e.g., when one party attacks the self-esteem or self-image of the other), that may result in feeling of being insulted, of fear, suspicion, resentment, anger and so forth. This may appear to justify hostile reactions to the other party (Einarsen, 1999). The concept of predatory bullying stress the role of the personality of the protagonists (e.g., social dominance of the perpetrator, vulnerability of the target), while the concept of dispute-related bullying emphasizes the role of the social interactions of the actors. The work environment hypothesis emphasizes the role of the organizational context and stressful working conditions in the occurrence of workplace bullying. However, these are ideal typical perspectives and a comprehensive model has to consider all factors (Heames & Harvey, 2006; Neuman & Baron, 1998; Salin, 2003b; Samnani & Singh, 2012, 2016; Zapf, 1999; Zapf & Einarsen, 2011). For instance, even if the perpetrator wants to demonstrate his/her power by putting someone else down, the person in charge of an organization may or may not tolerate such a behavior. Therefore, employees will act as perpetrators only when the organization and the organizational culture permit (or even reward) this kind of misbehavior (Einarsen et al., 2011). Furthermore, not organizational problems but only humans can "harass" employees (Zapf, 1999), pointing to the responsibility of the actors. Finally, scholars have emphasized that there are no pure perpetrator or victim personality (Zapf & Einarsen, 2011).

1.5.1. Personality of the perpetrator

For a while, the personality of the perpetrator has been described as "the black hole" in workplace bullying research (Rayner & Cooper, 2003), as the first information were only available from proxy reports (i.e., targets and witnesses of bullying). Some early studies

conducted qualitative interviews with workplace bullying victims where many victims blamed the personality of the perpetrator (e.g., Seigne 1998; Zapf, 1999). Beside proxy reports from the victim's perspective, the personality dimensions of perpetrators of workplace bullying were mainly studied by scholars who researched the subpart of counterproductive work behavior that is intended to harm other people (i.e., interpersonal deviance; Penney & Spector, 2002) or workplace deviance (Bennett & Robinson, 2000). Anyway, in recent years scholars following the traditional workplace bullying research have also begun to research personality characteristics of the perpetrators.

Many studies have shown that workplace bullying perpetrators tend to score higher on several anti-social traits. They tend to have higher scores on aggressiveness, assertiveness, competitiveness (Seigne, Coyne, Randall, & Parker, 2007) and inhibition (Linton & Power, 2013). Furthermore, workplace bullying perpetration was linked with low self-concept clarity (Stucke, 2002), and high scores on the so-called "dark triad", i.e., psychopathy, Machiavellianism and narcissism (Baughman et al., 2012; Linton & Power, 2013; O'Boyle, Forsyth, Banks, & McDaniel, 2012; Pilch & Turska, 2015).[22] Moreover, perpetrators are more likely to report a hostile attribution style, more positive attitudes toward revenge (Douglas & Martinko, 2001), low scores on perspective taking and a social dominance orientation (Shao, Resick, & Hargis, 2011; Parkins, Fishbein, & Ritchey, 2006). Perpetrators tend to score higher on trait anxiety (Fox & Spector, 1999), trait anger and negative affectivity (Hershcovis et al., 2007). Furthermore, perpetrators seem to have a lower core self-evaluation (Ferris et al., 2011) and lower organization-based self-esteem (Ferris, Spence, Brown, & Heller, 2012). Regarding the five-factor model of personality (big five), meta-analytical evidence showed that high scores on neuroticism and low scores on agreeableness and conscientiousness are associated with workplace bullying perpetration (Berry et al., 2007) and antisocial behavior and aggression in general (Jones, Miller, & Lynam, 2011; Miller & Lynham, 2001).[23]

Zapf and Einarsen (2011) identified three main reasons for perpetrators engaging in bullying behavior that are in line with these empirical results. First, workplace bullying may be a result of (failed) self-regulatory processes with regard to threatened self-esteem within the

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[22] Interestingly, Boddy (2011) found that "corporate psychopaths" that are psychopaths in a working environment are responsible for 26% of workplace bullying cases but represent only 1% of the working population. Moreover, psychopaths are not only often responsible for workplace bullying but also seem to react quite differently to experienced abuse than non-psychopaths. Specifically, Hurst, Simon, Jung and Pirouz (2017) found that abusive supervision increased positive affect and engagement and had no influence on anger in employees scoring high on psychopathy whereas abusive supervision had detrimental effects (i.e., low positive affect, low engagement, high anger) on employees scoring low on psychopathy.
[23] For theoretical considerations on personality and workplace harassment, see also Spector, 2011.

perpetrator. Self-esteem can be described as having a favorable global evaluation of oneself (Baumeister, Smart, & Boden, 1996). A successful pursuit of self-esteem can lead to positive affects (e.g., pride), while treats of self-esteem can lead to feelings of shame and anger (Crocker & Park, 2004). Therefore, protecting one's self-esteem is a basic human motive that influences human behavior in many social situations (Baumeister et al., 1996). Scholars hypothesize that people whose self-esteem and egotism is threaten may react with aggressive behavior towards the source of the negative evaluation (Zapf & Einarsen, 2011; Baumeister et al., 1996). "In terms of self-regulation, aggression is used to defend positive self-appraisals, instead of adapting to the more negative appraisal of oneself proposed by others, because the resulting decrease in self-esteem is aversive for nearly everyone" (Zapf & Einarsen, 2011, p. 181). However, contrary to common beliefs, Baumeister and colleagues have found that violence and aggression is more commonly a result of a threatened inflated and unstable self-esteem rather than a result of low self-esteem (Baumeister et al., 1996; Baumeister, Bushman, & Campbell, 2000).[24] Second, workplace bullying might be a result of lacking social competencies (i.e., the ability of emotional control, self-reflection and perspective taking) on the side of the perpetrator. The link between emotional control and aggression is well established (e.g., Denson, DeWall, & Finkel, 2012; Roberton, Daffern, & Bucks, 2012) and many workplace bulling exposure instruments include items that present a lack of emotional control at the side of the perpetrator, like acting rude, shouting, yelling etc. Moreover, a qualitative study with accused bullies (Jenkins et al., 2011) reported that they found their behavior appropriate in the circumstances. Some justified their behavior with the poor performance of their targets and claimed that they were not aware of the consequences of their behavior for the targets. Additionally, Parkins et al. (2006) found that perspective taking was negatively correlated with workplace bullying perpetration. Third, bullying might be a specific strategy of micropolitical behavior (Salin, 2003c; Ferris et al., 2007). Contrary, to the other causes, bullying as micropolitical behavior emphasizes the instrumental and therefore, intentional nature of the bullying behavior enacted by the perpetrator. Bullying is used by the perpetrator to achieve his/her personal and/or organizational objectives. For instance, an employee may wish to eliminate a potential competitor or a supervisor may use negative acts to push a target to increase his/her performance. Indeed, Salin (2003c) reported a link between workplace bullying exposure and perceived organizational politics.

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[24] However, it is important to note that this finding is still under-debate (e.g., Donnellan et al., 2005).

1.5.2. Personality of the target

The emphasis on target (personality) characteristics can appear to blame the victim and is controversial debated (e.g., Leymann, 1996a; Leymann & Gustafsson, 1996; Cortina, 2017). Targets may contribute directly or indirectly to their victimization by their characteristics and/or by their behavior (Zapf & Einarsen, 2011; Samnani & Singh, 2016); a theoretical consideration that is also consistent with research on school bullying (Olweus, 1978). However, one has to be careful to not blaming the victim, as situational context is always important and maybe more important than characteristics of the targets.[25] Nevertheless, a comprehensive model also has to include these individual factors among others (i.e., the characteristics of the perpetrator, the organizational context, the social dynamic of the work group) to get a clear picture of the antecedents of workplace bullying (Zapf & Einarsen, 2011; Samnani & Singh, 2012, 2016). Furthermore, personality dimensions may also play a role in the perception of being victimized (e.g., Brees et al., 2014, 2016; Nielsen & Knardahl, 2015; Tepper, Duffy, Henle, & Lambert, 2006; Vie et al., 2011). Moreover, some studies have shown that different personality dimensions are moderators between the association of certain situational- and work-related risk factors and workplace bullying (e.g., Francioli et al., 2016; Moreno-Jiménez, Rodríguez-Muñoz, Pastor, Sanz-Vergel, & Garrosa, 2009) as well as between workplace bullying and health outcomes (Hogh, Mikkelsen, & Hansen, 2011; Nielsen, Matthiesen, & Einarsen, 2008; Laschinger & Nosko, 2015). Therefore, certain individual factors and dispositions may contribute to the target's potential coping strategies (or lack thereof) when confronted with negative acts (Einarsen et al., 2011). However, of course, only rely on personality factors of the victim to explain the occurrence of workplace bullying is inappropriate (Lind, Glasø, Pallesen, & Einarsen, 2009; Zapf, 1999), because there is no victim personality that can explain bullying in general (Glasø et al., 2007, 2009).

Nielsen and Knardahl (2015) discuss four different theoretical causal mechanisms that may explain the link between workplace bullying and personality characteristics. The *no-relationship mechanism* serves as a null hypothesis and suggests that workplace bullying exposure is simply not associated with personality characteristics, and therefore, personality is

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[25] Cortina (2017; Cortina, Rabelo, & Holland, 2018) strongly emphasizes that the characteristics of the victim may explain, why a perpetrator chose a certain person for victimization but that only the perpetrator should be held accountable for the abuse: "Victim characteristics might help us understand why the actor selected that particular colleague for abuse. But it is important to emphasize that it was the actor, not the victim, who did the selecting and abusing." (Cortina, 2017, p. 128). Therefore, she suggests switching from a victim precipitation to a perpetrator predation framework. The perpetrator predation framework imparts agency unambiguously on the perpetrator. Zapf (1999; Zapf & Einarsen, 2011) argues in the same direction and points to the fact that cause should not be equated with guilt.

neither a predictor nor an outcome of workplace bullying. The *target-behavior mechanism* posits that employees with specific dispositions (e.g., lower conscientiousness) elicit aggressive behaviors in others through the violation of expectations, underperformance, annoying of others, or breach of social norms of polite and friendly interactions (Einarsen, 1999, Felson, 1992). This mechanism depicts the concepts of the vulnerable and "provocative" victim that have been proposed in school bullying context (Olweus, 1978, 1993) but have also been transferred in the workplace context (e.g., Aquino & Lamertz, 2004). The *negative perceptions mechanism* posits that certain personality dimensions are associated with a lowered threshold for interpreting certain behaviors as negative and harassing. Therefore, employees with such personality factors may have a higher risk than others for labeling negative events and behavior as bullying (Einarsen et al., 2011; Nielsen et al., 2011). Moreover, employees with certain personality factors (e.g., negative affectivity) may selectively recall more negative acts and events than others (Aquino & Thau, 2009). Finally, the *reverse causality mechanism* suggests that the personality of victims is shaped through this negative experience and therefore, being a consequence rather than an antecedent of workplace bullying exposure (e.g., Leymann, 1996a; Leymann & Gustafsson, 1996; Glasø et al., 2009).

Looking at the empirical findings, workplace bullying targets tend to have lower self-esteem and higher levels of negative affectivity (Bowling & Beehr, 2006), higher levels of trait anger and anxiety (Vie et al., 2011) and lower level of social competence (Matthiesen & Einarsen, 2007; Zapf, 1999). Furthermore, targets of workplace bullying tend to have an avoiding conflict style (Baillien et al., 2016) and a hostile attribution style (Martinko, Harvey, Sikora, & Douglas, 2011). Moreover, Machiavellianism and psychoticism were also linked with being a target of workplace bullying (Linton & Power, 2013). A meta-analysis found no association between workplace harassment and core self-evaluation (Nielsen & Einarsen, 2012), but a longitudinal study did (Bowling, Beehr, Bennett, & Watson, 2010). Regarding the five-factor model of personality, initial studies showed that workplace bullying targets show higher level of neuroticism (Persson et al., 2009; Glasø et al., 2007; Milam, Spitzmueller, & Penney, 2009; Coyne et al., 2000, 2003), and lower level of agreeableness (Glasø et al., 2007; Milam et al., 2009; Lind et al., 2009). Regarding the association of workplace bullying exposure with conscientiousness and extraversion have produced mixed findings. While Persson et al. (2009) found a positive association between being target of workplace bullying and extraversion, Glasø et al. (2007) and Coyne et al. (2000) reported a negative association between these two variables. Furthermore, Coyne et al. (2000) and Lind et al. (2009) reported that targets of workplace bullying had higher levels of conscientiousness, while Glasø et al.

(2007) again found that being target of workplace bullying is negatively related to conscientiousness. Moreover, a recent study (Plopa, Plopa, & Skuzińska, 2017) indicates that the combination of certain big five dimensions might be a risk factor of being a target; specifically, employees with a combination of high neuroticism, low extraversion and high openness for experience might be at risk.

Study findings on the association between workplace harassment and the big five personality dimensions were summarized by a recent meta-analysis (Nielsen, Glasø, & Einarsen, 2017) that found that workplace harassment is positive correlated with neuroticism (r = .25), negative correlated with extraversion (r = -.10), agreeableness (r = -.17) and conscientiousness (r = -.10) and not correlated with openness to experience. Moderator analyses revealed that the associations between workplace harassment and neuroticism, agreeableness and conscientiousness, respectively were conditioned by measurement method for workplace harassment (self-labeled vs. behavioral experience method), type of harassment (e.g., incivility, bullying) and geographical origin of study (e.g., Europe, USA). Interestingly, the association between workplace harassment and neuroticism was higher with the self-labeling method than with the behavioral method. Furthermore, findings on type of harassment showed that workplace bullying was stronger correlated with neuroticism than abusive supervision and other types of harassment (e.g., incivility). The association was also stronger for studies conducted in Europe than studies conducted in USA or Asia/Oceania. Regarding the association between workplace harassment and agreeableness, this association was stronger when workplace harassment was assessed with the behavioral experience method than with the self-labeling method. Workplace bullying and abusive supervision were weaker associated with agreeableness than other types of harassment (e.g., incivility, social undermining). The association between workplace harassment and agreeableness was weaker for studies conducted in Europe than studies conducted in USA. Regarding the association between workplace harassment and conscientiousness, the association was higher when workplace harassment was assessed with the behavioral experience method than with the self-labeling method. Workplace bullying was weaker associated with conscientiousness than other types of harassment (e.g., abusive supervision, incivility). The association between workplace harassment and conscientiousness was again weaker for studies conducted in Europe than studies conducted in USA or Asia/Oceania (Nielsen, Glasø et al., 2017).

However, most of the studies that investigated the personality and characteristics of targets of workplace bullying (including the meta-analysis from Nielsen et al., 2017) relied on

self-reported, cross-sectional data. Longitudinal data and more than self-reports are needed in order to obtain which of the three proposed mechanisms (or a combination thereof) by Nielsen and Knardahl (2015) is more plausible. Yet, until now, there are only a very small number of longitudinal studies on this issue, researching the role of negative affect (Bowling et al., 2010), depression (Hogh et al., 2016), the big five personality traits (Nielsen & Knardahl, 2015; Persson et al., 2016; Podsiadly & Gamian-Wilk, 2017); sense of coherence (Hogh et al., 2016; Persson et al., 2016) and anxiety and vigor (Rodríguez-Muñoz, Moreno-Jiménez, & Sanz-Vergel, 2015) as risk factors or consequences of workplace bullying exposure. The longitudinal evidence suggests a bidirectional association between workplace bullying exposure and personality characteristics. Being exposed to workplace bullying may lead to changes in personality that makes the target even more vulnerable or "provocative" and predisposed to further bullying and harassment (Nielsen et al., 2017). Therefore, the association between workplace bullying exposure and personality may be thought as vicious circle (Nielsen et al., 2017). A proposition that is also in line with conservation of resources theory (Hobfoll, 1989; Tuckey & Neall, 2014) and is also supported by the fact, that bullying exposure in school is associated with bullying exposure later in the workplace (Smith, Singer, Hoel, & Cooper, 2003). However, since these data solely based on self-reports both, the target-behavior mechanism and the negative perceptions mechanism are candidates to explain these associations. As can be seen from the literature review, targets and perpetrators share an astonishing amount of personality characteristics. This led Hershcovis and Reich (2013, p. 29) to the question "whether the labels perpetrator and target are practically meaningful and whether perpetrators and targets are distinguishable". The high amount of shared personality traits between perpetrator and target (e.g., Linton & Power, 2013) are in line with the proposition that there are also employees that can be categorized as perpetrator-targets or bully-victims (e.g., Glasø et al., 2009; Matthiesen & Einarsen, 2007), employees who are targets but also enact in workplace bullying. Hershcovis and Reich (2013) further suppose that the wrong combination of people or peoples' characteristics may trigger workplace aggression. That is, a provocative victim is more likely to trigger a reactive perpetrator to become aggressive, whereas a submissive victim is more likely to be identified by a domineering perpetrator as a viable target. Therefore, the combination of characteristics of the victim and the perpetrator may also be a risk factor for the occurrence of workplace bullying and aggression (Aquino & Lamertz, 2004).

1.5.3. Social antecedents

Some scholars (e.g., Andersson & Pearson, 1999; Aquino & Lamertz, 2004; Glomb, 2002; Neuman & Baron, 2011) focus more on the relational and social aspects of workplace bullying. In their view, workplace bullying is not an either-or phenomenon, but is a gradually evolving process (Einarsen et al., 2011). In these models, workplace bullying arise because of dyadic interactions that start with subtle, indirect aggressive acts and spiral into increasingly intense aggressive behavior (Andersson & Pearson, 1999). Workplace bullying is seen as an escalated conflict, where both parties engage in increasing overt acts of aggression (Einarsen, 1999; Einarsen et al., 2011; Leymann, 1990b, 1996a; Lutgen-Sandvik, 2003; Tedeschi & Felson, 1994; Zapf & Einarsen, 2005; Zapf & Gross, 2001). This perspective is supported by one of the most robust finding in workplace bullying and aggression literature, the association between experienced workplace aggression and enacting in workplace aggression (Aquino & Bradfield, 2000; Baillien, De Cuyper et al., 2011; Baillien, E., Rodriguez-Muñoz, Van den Broeck, & De Witte, 2011; Baillien et al., 2016; Balducci et al., 2012; Burton, 2015; De Cuyper et al., 2009; Hauge et al., 2009; Hershcovis et al., 2007; Hershcovis, Reich, Parker, & Bozeman, 2012; Lee, Kim, Bhave, & Duffy, 2016; Lee & Brotheridge, 2006; Lian, Ferris, & Brown, 2012a; Mayer, Thau, Workman, Dijke, & Van Cremer, 2012; Mitchell & Ambrose, 2007, 2012; Torkelson, Holm, Bäckström, & Schad, 2016). Conflicts and frequency of these are seen as an important antecedent of workplace bullying. Scholars that emphasize this perspective usually rely on the conflict escalation model that posits three phases (e.g., Zapf & Gross, 2001).[26] The starting point is a rational or task conflict that is a factual disagreement about how certain aspects of the tasks should be done (Baillien et al., 2016). In this phase, all conflict parties are interested in reasonable solutions and attempt to co-operate but may slip into tensions and frictions that may lead to polarization and interaction through deeds instead of words. The first stage then may transform into the second stage that is characterized by emotional conflicts, where not the original problem but the relationships of the involved persons is the main source of tension (Zapf & Gross, 2001). This relationship conflict contains annoyance about personal differences (e.g., values, attitudes, preferences, and personality; Baillien et al., 2016) and distrust, lack of respect and even overt hostility. Agreements and compromises become more and more difficult, and the parties attempt to exclude each other. The involved parties are concerned for reputation and coalition and are afraid of loss of face and moral outrage. If no intervention takes place, the second stage may evolve into the third stage, where confrontations

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[26] By now, there exists a few conflict escalation models. Nevertheless, they are quite similar (e.g., D'Cruz & Noronha, 2010; Karatuna, 2015; Leymann, 1990b; Lutgen-Sandvik, 2003).

become very destructive and attempts to resolve the conflict in a positive manner are blocked (Zapf & Gross, 2001). In this escalated conflict, the parties may deny their opponents any human value and dignity (Einarsen et al., 2011; Zapf & Gross, 2001). The party with less power (e.g., because of hierarchical position) that has problems in defending him/herself may then become victimized (Zapf, 1999). The conflict escalation model is empirically supported. Frequency of conflicts are associated with the occurrence of workplace bullying (Ayoko, Callan, & Härtel, 2003; Baillien et al., 2009, 2014, 2015, 2016; Baillien & De Witte, 2009; Glomb, 2002; Harris, Harvey, & Kacmar, 2011; Hauge, Skogstad, & Einarsen, 2007; Pluut & Curşeu, 2013; Zapf & Gross, 2001). Furthermore, relationship conflict has been found to mediate the association between task conflict and workplace bullying exposure and perpetration (Baillien et al., 2015; Leon-Perez, Medina, Arenas, & Munduate, 2015). Moreover, supervisor's perception of conflicts between his/her subordinates has been linked with abusive supervision (Harris et al., 2011) and abusive supervision has been associated with team conflicts (Farh & Chen, 2014). Therefore, conflicts may have a contagion effect (Aquino & Douglas, 2003; Bowling et al., 2010; Glomb & Liao, 2003). Moreover, as conflicts are seen as crucial for the occurrence of workplace bullying, some scholars (Aquino, 2000; Ayoko, 2007; Baillien et al., 2009, 2010, 2014, 2016; Baillien & De Witte, 2009; Einarsen et al., 2016; Pluut & Curşeu, 2013; Trudel & Reio, 2011; Zapf & Gross, 2001) have looked at different conflict management styles that may reduce or increase the change of an escalating conflict. For instance, Baillien et al. (2016) found that yielding leveraged the association between relationship conflict and becoming a target of workplace bullying, whereas forcing increased the association between relationship conflict and becoming a perpetrator of workplace bullying. Moreover, Leon-Perez et al. (2015) found that the conflict management style problem solving were negatively associated with task conflict, relationship conflict and exposure to workplace bullying.

Other scholars that emphasize the role of social factors as antecedents in the occurrence of workplace bullying take a social interactionist perspective (e.g., Andersson & Pearson, 1999; Aquino & Douglas, 2003; Felson, 1992; Neuman & Baron, 2011; Tedeschi & Felson, 1994). The social interactions of the involved persons (perpetrator, target, third parties), the social norms (or lack thereof) of the organization and/or the work group and the reactions on norm violations (injustice perceptions), are in the center of the analysis (Neuman & Baron, 2011). Bearing this in mind, the social interactionist perspective also proposes that perpetrators of workplace bullying often view their own behavior as legitimate and even moralistic (Felson & Tedeschi, 1993), a proposition that have been empirically supported (e.g., Bloch, 2012; Jenkins et al., 2012). Furthermore, concepts of social exchange theory (Blau, 1964; Gouldner, 1960;

Homans, 1958; Emerson, 1976; Cropanzano & Mitchell, 2005) like interdependent interactions, justice perceptions, reciprocity and other social norms play a crucial role. An organization or a work group is usually characterized by a certain degree of interdependence between the involved actors. Especially when the degree of dependence (i.e., extent that each party's outcomes are controlled by the other) and the mutuality of dependence (i.e., whether individuals need to cooperate to achieve their desired outcomes) is high and correspondence of outcomes (i.e., extent of shared interests) is low, there is a potential for conflicts among the actors (Cropanzano & Mitchell, 2013). Furthermore, many studies have shown that perceived unfair treatment is an antecedent of workplace aggression (e.g., Burton & Hoobler, 2011) that is also confirmed by meta-analyses (Cohen-Charash & Spector, 2001; Colquitt et al., 2001). Moreover, two related constructs of perceived justice, psychological contract breach and violation that are the cognitive perception of, and the affective response to perceived organizational injustice, have been linked with interpersonal deviance (Bordia, Restubog, & Tang, 2008) and incivility (Sayers, Sears, Kelly, & Harbke, 2011). Furthermore, Inness et al. (2005) studied supervisor-targeted aggression with a sample of employees who work two jobs, each with different supervisor to examine the relative role of within-subject situational differences (interactional injustice, abusive supervision) and between-subject individual differences (self-esteem, history of aggression). They found that situational differences explained more variance than individual differences. Norm violations play a crucial role in the context of (in)justice perceptions. Folger and Cropanzano (1998, 2001) propose that ethical standards, to which others are expected to adhere, must be violated and the norm violator must be blamed and held accountable in order for an event to be perceived as unjust. Therefore, not only the norm violation per se, but also the attribution of blame is an element of the injustice perceptions. This is confirmed by Felson (1982) who investigated the sequence of events in aggressive interactions and found that violent incidents often begin with someone believing that a norm has been violated. Perceiving a norm violation, may increase physiological arousal, negative affect (frustration, stress, anger), and hostile cognitions (Anderson, Anderson, & Deuser, 1996; Da Gloria & De Ridder, 1977; Neuman & Baron, 2011; Ohbuchi et al., 2004), especially when the norm violation blocks the attainment of some desired goals. Conducting a qualitative study with perpetrators, Bloch (2012) found that perpetrators perceived violation of social and workplace norms (e.g., norm of solidarity, contesting informal hierarchy) that lead to negative evaluation (i.e., contempt and resentment) towards the target and negative emotions (i.e., anger) and desire for vengeance at the side of the perpetrator. This results in negative acts towards the target, such as gossiping, ostracism and direct attacks. An important norm in this context is the norm of reciprocity that

is a basic and universal principle of human behavior and interaction (Gouldner, 1960) and describes the tendency of people "to do unto others as others have actually done unto them" (Neuman & Baron, 2011).[27] Meier and Semmer (2013) found that perceived lack of reciprocity was associated with workplace incivility and that this effect was mediated through feelings of anger.

Finally, it may also be true that claiming to be a victim may be an effective strategy in certain situation, such as in an interpersonal conflict that may be used by both parties to gain a relative advantage (Einarsen, 1999; Einarsen et al., 2011; Zapf & Einarsen, 2011). Assigning oneself victim status may be a mean to achieve personal goals.[28] For instance, it may result in receiving help from third parties (e.g., representatives of the human resource department). It could also be used as a justification of oneself behavior and may serve as protection of self-esteem as victims are usually seen as fair and innocent (Zapf & Einarsen, 2011). Furthermore, it may serve to delegitimize the other parties' point of view through moral elevation. Moreover, it could be used to win a case of unfair dismissal in court or receive an early pension (Zapf & Einarsen, 2011). Some of these propositions are corroborated by a qualitative interview study with 24 employees in a supervisor position who have been accused of workplace bullying (Jenkins et al., 2012). About 66% percent of the accused bullies felt that they were bullied themselves, and all participants reported being targets of negative or inappropriate acts by their subordinates at times (Jenkins et al., 2012). Furthermore, Jenkins et al. (2012) found that some managers were accused of bullying behavior, with concerns of the self-labeled victims the managers were not personally responsible for, such as lack of pay raise, administrative stuff and organizational procedure.[29] Thus, the assignment of a victim status was used to enforce objectives that had nothing to do with victimization. However, the chances of getting the self-labeled victim status generally accepted may be unequal for different persons in an organization. Jenkins et al. (2012) reported that managers may not interpret negative acts from

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[27] Goulder's review (1960; see also Cropanzano & Mitchell, 2005) of the concept of reciprocity shows that there exists ambiguous definitions of reciprocity that focus on three different conceptualizations. Some scholars see reciprocity as a transactional pattern of interdependent exchanges (e.g., Blau, 1964), while others define it as a folk belief (i.e., the belief that people "get what they deserve" and that everything works out at the end; Malinowski, 1932). The third conceptualization views reciprocity as a moral norm (Mauss, 1967).

[28] It is important to note that "the assignment of victim status is a subjective and often highly politicized process […] as anybody can claim to be victimized, but not everyone may accept this claim" (Aquino & Lamertz, 2004, p. 1031) and what constitutes victimization in a special context is a subject of societal discourses (Best, 1997; Quinney, 1972).

[29] See also Jarreta, García-Campayo, Gascón, & Bolea, 2004.

subordinates as bullying and may not feel comfortable to accuse subordinates as bullies, because this might raise doubts about their leadership performance.[30]

1.5.4. Organizational antecedents

Beside the characteristics of the perpetrator and the target and the social context, scholars have also focused on organizational antecedents. Studies on organizational risk factors of workplace bullying have mostly been inspired by the 'work environment hypothesis' that have been originated by the influential work of Leymann (e.g., 1990b, 1996a). Leymann strongly argued against individual characteristics of the victim or perpetrator as explanation of the occurrence of workplace bullying but referred to the situational context and especially the organizational or work environment. The 'work environment hypothesis' states that the occurrence of workplace bullying can be attributed to a stressful and frustrating work environment. Therefore, many studies on workplace bullying antecedents investigated work factors that may result in a stressful work environment (i.e., work stressors; e.g., Agervold, 2009; Baillien, De Cuyper et al., 2011; Hauge, 2007; Notelaers, De Witte, & Einarsen, 2010; Skogstad, Torsheim, Einarsen, & Hauge, 2011). The relationship between a stressful work environment and workplace bullying is explained through the (work) frustration-aggression theory (Fox & Spector, 1999; Spector & Fox, 2005). A stressful work environment may create frustrated events and frustration in the employees that may lead to higher levels of aggression. Frustrated events can be understood as situational constraints that block employees from achieving valued work goals of attaining performance (Fox & Spector, 1999). They can lead to affective reactions such as feelings of stress and frustration, anxiety and anger (Fox, Spector, & Miles, 2001; Heacox & Sorenson, 2004). Employees may try to find alternative ways to goal achievement that include interpersonal hostility or aggression.[31] Alternatively, the relationship between a stressful work environment and workplace bullying can also be explained through a social-interactionist perspective (Felson, 1992; Felson & Tedeschi, 1993). This perspective posits that stressful events may cause some employees to violate expectations such as social norms (e.g., behave polite and friendly) and workplace norms (e.g., work performance) and,

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[30] This points to the under researched topic of upward bullying (e.g., Branch, Ramsey & Barker, 2007, 2008).

[31] It is important to note that this theoretical framework is an explanation of workplace bullying perpetration and stems from scholars explaining counterproductive work behavior (e.g., Fox et al., 2001). Nevertheless, it has been applied in many studies that aimed to explain workplace bullying exposure (e.g., Einarsen et al., 1994; Hauge, 2007). However, this implies that perpetrators share the experience of work stressors with the victims (Bowling & Beehr, 2006). This assumption was supported by a study that compared departments with different bullying incidents and found that workplace bullying victims as well as non-victims working in the same department reported a poorer psychosocial work environment (Agervold, 2009). Furthermore, in a study by Hauge et al. (2009) the same stressors were linked to engage in and being target of workplace bullying.

hence, encourage others to engage in workplace bullying behavior as a mean of gaining social control (Hauge et al., 2007). In this view, the work environment triggers targets to engage in behavior that provoke subsequent bullying.[32] Beside the proposed mechanisms that stress (either in the perpetrator or in the target) is the intermediate effect between work factors and bullying, Baillien et al. (2009) suggested, that work factors also may increase the likelihood of conflicts and conflict escalation that may lead to bullying. Furthermore, they proposed that the work environment might possess characteristics that permit or even incentivize engaging in workplace bullying. Empirically, a plethora of work factors have been identified and linked with the occurrence of workplace bullying. They can be categorized into the following intertwined factors: Work organization and job design, organizational culture and climate, reward systems and competition, leadership as well as organizational change (Bowling & Beehr, 2006; Leymann, 1996a; Salin & Hoel, 2011; Samnani & Singh, 2012).

As a stressful and frustrating work environment was expected to be an antecedent of bullying, studies on antecedents of workplace bullying focused on work organization and job design factors that have been shown to be associated with stress and job dissatisfaction. Sometimes, workplace bullying scholars employed a specific theoretical stress framework like the job-demand-control model (Karasek, 1979; e.g., Baillien, De Cuyper et al., 2011; Notelaers et al., 2012) or the job demand resource model (Bakker & Demerouti, 2007; e.g., Baillien, Rodríguez-Muñoz et al., 2011; Tuckey, Dollard, Hosking, & Winefield, 2009). Role conflict and role ambiguity, two well-known work stressors (Cooper, Dewe, & O'Driscoll, 2001) have been linked several times with the occurrence of workplace bullying (Agervold, 2009; Baillien & De Witte, 2009; Balducci et al., 2011, 2012; Einarsen et al., 1994, Hauge et al., 2007; Moreno-Jiménez et al., 2009; Skogstad et al., 2011; Vartia, 1996). This is also confirmed by meta-analytical (Bowling & Beehr, 2006) and longitudinal (Reknes, Einarsen, Knardahl, & Lau, 2014) evidence. Furthermore, time pressure and workload have also been suggested (Leymann, 1996a) and found to be related to the occurrence of bullying (Agervold, 2009; Baillien, De Cuyper et al., 2011; Balducci et al., 2011; Bowling & Beehr, 2006; Einarsen et al., 1994; Hauge et al., 2007; Skogstad et al., 2011). Moreover, a lack of autonomy and decision authority have been hypothesized and empirically confirmed as a risk factor of workplace bullying (Agervold et al., 2009; Bowling & Beehr, 2006; Skogstad et al., 2011), especially when combined with high job demands (Notelaers et al., 2012), like the job-demand-control model would predict. Another frequently examined work stressor is organizational constraints.

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[32] Interestingly, the two different theoretical models have not been tested against each other so far.

Constraints refer to working conditions that interfere with task performance or goals at work, such as budgetary, time, equipment or assistance restriction (Fox & Spector, 1999) and have been found to be positively related to workplace harassment exposure (Bowling & Beehr, 2006; Pindek & Spector, 2016) and perpetration (Fox & Spector, 1999; Hershcovis et al., 2007; Pindek & Spector, 2016). In addition, monotony has been discussed as a potential risk factor of workplace bullying. However, while Vartia (1996) found that workplace bullying targets reported higher level of work monotony compared to workplace bullying observer and non-involved employees, Zapf et al. (1996) found no such differences. Sometimes, overall measures of the work environment quality are used, that include for instance organizational climate, leadership behavior, and autonomy (e.g., Jennifer et al., 2003; Baillien, Rodríguez-Muñoz et al., 2011; Notelaers et al., 2012; Stouten et al., 2010; Tuckey et al., 2009). These studies also supported the work environment hypothesis. Finally, physical aspects (i.e., high temperature, noisy, crowdedness, poor air quality etc.) have also been suggested as antecedents of stress and workplace bullying (Neuman & Baron, 1998). They may be an explanation of the high prevalence of workplace bullying in the restaurant sector (Einarsen & Skogstad, 1996; Mathisen, Einarsen, & Mykletun, 2008) that is typically characterized trough hot, cramped and noisy, in sum uncomfortable conditions (Bloisi & Hoel, 2008; Johns & Menzel, 1999). However, research on this topic is sparse. Beside findings from laboratory studies and studies in non-work environments that linked crowdedness (Baum & Koman, 1976; Lawrence & Leather, 1999), loud noise (Donnerstein & Wilson, 1976; Geen & McCown, 1984) and temperature (Berkowitz, 1993) with aggression, Baillien, Neyens and De Witte (2008) found that practical experts (e.g., human resource managers) reported unpleasant working conditions, such as elevated temperature and excessive noise as risk factors of bullying. Furthermore, using data from a large Finnish national survey Salin (2015) reported an association between and index of physical work environment factors (e.g., poor lightning, heat) and being exposed to workplace bullying behavior.

Scholars have also emphasized that bullying is prevalent in organizations where members are not prevented but incentivized for negative acts against other members (Einarsen, 1999; Liefooghe & Davey, 2001; Pheko, Monteiro, & Segopolo, 2017; Salin, 2003c; Samnani & Singh, 2014) and where bullies are protected (e.g., Harrington, Warren, & Rayner, 2015). Therefore, organizational culture and organizational climate was also an early debated risk factor for workplace bullying (e.g., Brodsky, 1976; Einarsen et al., 1994; Vartia, 1996). Organizational culture refers to the shared basic assumptions, values and beliefs that characterize a work setting and that are taught to newcomers as the proper way to think and feel

(Schein, 2010). Organizational climate refers to shared perceptions of the practices, procedures and policies that employees experience and the behaviors they observe that are expected, supported, and rewarded (Schneider, Ehrhart, & Macey, 2013). Several studies have linked different forms of organizational climate and the occurrence of workplace bullying and harassment (Dollard, Dormann, Tuckey, & Escartín, 2017; Giorgi, 2010; Law, Dollard, Tuckey, & Dormann, 2011; Spector, Coulter, Stockwell, & Matz, 2007). The importance of the individual and shared perception of organizational climate as predictor of different forms of workplace mistreatment has been confirmed via meta-analytical evidence (Yang, Caughlin, Gazica, Truxillo, & Spector, 2014). Moreover, organizational climate is not only related to the occurrence of bullying but also to the coping strategies used by the targets of bullying. In contexts with high psychosocial safety climate, targets tend to voice and confront the organization with the bullying incidents, whereas in contexts with low psychosocial safety climate, targets tend to leave the organization (Kwan, Tuckey, & Dollard, 2016; Yang et al., 2014). Therefore, workplace bullying can be stimulated by an organizational culture and climate that convey norms that normalize mistreatment as an appropriate behavior in certain situations. For instance, Archer (1999) described how the use of bullying techniques during the training process in the fire service lead to the socialization and adoption of such behavior. The importance of the socialization process in the occurrence of workplace bullying has also been stressed by research on nursing profession (Hoel, Giga, & Davidson, 2007; Randle, 2003). This is in line with social learning theory (Bandura, 1986), that aggression is (in part) a learned behavior that is reinforced through the acquisition of rewards or by viewing others (e.g., supervisor, colleagues) being rewarded for aggressive acts (Penney, Martir, & Bok, 2017). Social cues, conveyed through the organizational culture and climate provide employees' information what behaviors are accepted, expected, supported, and rewarded (Salin, 2003b). If these cues contain aggressive behavior, newcomers may adopt this kind of behavior. This can establish group norms that accept or even reward this kind of behavior. Mawritz, Mayer, Hoobler, Wayne and Marinova (2012) provided evidence of a trickle-down model that link abusive manager behavior with abusive supervisor behavior that is related with work group interpersonal deviance. Furthermore, it might be hypothesized that employees, who do not agree with such kind of behavior, will leave the organization, leaving behind those who strongly believe in these aggressive norms. Therefore, organizations that are characterized by a high degree of formality, conformity and group pressure may be more prone to the occurrence of bullying (Archer, 1999; Ashforth, 1994; Koeszegi et al., 2014; Vartia & Hyyti, 2002). However, others have suggested that a very informal work atmosphere may be also a risk factor for

workplace bullying (Andersson & Pearson, 1999; Tedeschi & Felson, 1994; Salin, 2003b). They reasoned that an informal climate might inadvertently encourage employees to behave in ways that are disrespectful of colleagues. In a very informal work setting, employees are not guided by any rules and may have difficulties to discern acceptable from unacceptable behavior, and may engage in humiliating jokes, surprises or insults (Andersson & Pearson, 1999). This behavior can go sour and may end in bullying behavior if the targeted employee do not have the ability to defend him/herself (Salin & Notelaers, 2011). Furthermore, in a very informal work setting, conflicts between employees might be handled poorly as no person responsible is determined. Baillien et al. (2008) who found in a qualitative study, that a very formal as well as a very informal atmosphere were also associated with increased bullying incidents, confirmed this proposition.

Moreover, it has been argued that an organization that is characterized by competition, competitive rewards, and envy may increase disharmony in coworker relationships that may result in workplace bullying (e.g., Kohn, 1992; Salin, 2003c, 2015; Samnani & Singh, 2014; Vartia, 1996). Competition may lead to higher levels of pressure, stress, and frustration, thus, lowering thresholds for aggression that may lead to workplace bullying (Salin, 2003c). Moreover, following Salin's (2003c) model that workplace bullying occurs because of the interplay among enabling, motivating, and precipitating processes, competition among colleagues and rewards system that solely focus on outperforming others may motivate employees to engage in workplace bullying behavior (see also Samnani & Singh, 2014). Thus, a competitive structure may create incentives for employees to engage in bullying behavior (e.g., Kohn, 1992; Salin, 2003c, 2015; Samnani & Singh, 2014; Vartia, 1996). In such work environments, workplace bullying perpetration might be a rational choice (Ferris et al., 2007). Empirical studies confirmed the link between competition and the occurrence of workplace bullying (Coyne et al., 2003, O'Moore & Lynch, 2007; Salin, 2003c, Salin, 2015). Furthermore, competition might also lead to higher job insecurity, as only employees who are perceived to perform well might get a permanent contract. Indeed, De Cuyper et al. (2009) found that job insecurity was linked with workplace bullying exposure and perpetration. Therefore, some scholars have regarded bullying as a rent seeking behavior based on a cost-benefit analysis (Kräkel, 1997). The costs of using workplace bullying behavior as action strategy are the potential retaliation of the target (e.g., Mitchell & Ambrose, 2007) and the risk of getting accused as workplace bullying perpetrator that may have several negative consequences (Jenkins et al., 2012). The benefits of the use of bullying behavior may be the 'elimination' of potential competitors for valued outcomes (salary increase, promotion, reputation).

Furthermore, bullying might be used to punish high-performing colleagues who are perceived as raising the barriers for the work group and, thus, violate established production norms (Salin, 2003c). Moreover, if the remuneration is based on the team performance, bullying behavior might be used to punish or even expel low-performing team members (Salin, 2003c). According to the rent seeking behavior model, employees will engage in bullying behavior if the benefits outweigh the costs (Kräkel, 1997). Hence, the link between competition and workplace bullying can be explained through the increase of stressful events and negative emotions (i.e., feelings of envy and threaten self-esteem) or through rational behavior, i.e., improve one's own position, punishing people who violate established productivity norms or who are being perceived as burden for the team.

The literature on workplace mistreatment has early focused on the role of the supervisor and persons with leadership responsibilities and formal power (e.g., Ashforth, 1994, 1997; Einarsen et al., 1994; Tepper, 2000; Vartia, 1996; Zapf et al., 1996). Studies have linked the occurrence of workplace bullying with leadership dissatisfaction (Einarsen et al., 1994; Vartia, 1996). Furthermore, some scholars have studied supervisors as source of the mistreatment (Ashforth, 1994, 1997; Einarsen, Skogstad, & Glasø, 2013; Tepper, 2000, 2007). Moreover, bullying research has linked several leadership styles as precursors of workplace bullying exposure, such as autocratic, authoritative or tyrannical leadership style (Hoel & Cooper, 2000; Hoel, Glasø, Hetland, Cooper, & Einarsen, 2010; Vartia, 1996). These kind of leadership styles refer to a coercive style that deny any involvement on the part of the subordinates. Others have shown that certain positive leadership styles are associated with lower incidents of workplace bullying, such as fair and supportive (Hauge, Skogstad, & Einarsen, 2011), constructive (Skogstad et al., 2011), ethical (Stouten et al., 2010), transformational (Astrauskaite et al., 2015), or authentic (Laschinger & Fida, 2014) leadership style. These leadership styles are characterized by ethical role modeling (i.e., being honest, trustworthy, fair, principled and transparent in decision making), perspective taking and making ethics an explicit part of his/her leadership agenda. Thus, they may reduce interpersonal conflicts, and perception of distributive injustice that are predictors of engaging in workplace bullying and aggression (Hershcovis et al., 2007). Furthermore, these leadership styles may enhance subordinates' moral reasoning and courage and increase their prosocial behavior (Hannah, Avolio, & Walumbwa, 2011). Recent empirical studies have also repeatedly linked passive avoidant leadership style with workplace bullying (Einarsen et al., 1994, Hoel & Cooper, 2000; Hoel, et al., 2010; Lutgen-Sandvik & McDermott, 2008; Skogstad, Einarsen et al., 2007; Strandmark & Hallberg, 2007; Woodrow & Guest, 2017). A passive avoidant leadership style is characterized among others by avoidance

of decision making, delaying actions and ignoring and abdicating leader responsibilities, in short not meeting the legitimate expectations of the subordinates (Bass & Riggio, 2006; Skogstad, Einarsen et al., 2007). As a passive avoidant leadership style may have an influence on all previously discussed organizational factors (Kelloway, Sivanathan, Francis, & Barling, 2004), the association with workplace bullying comes with no surprise.[33] While an autocratic, authoritative or tyrannical leadership style may be considered a bullying behavior itself (Salin & Hoel, 2011), a passive avoidant leadership style may create a work environment were bullying can flourish as a passive avoidant leadership style is a root cause for several workplace stressors such as role conflict, role ambiguity, workload and time pressure (Kelloway et al., 2004; Skogstad et al., 2014). Furthermore, passive avoidant leadership style is associated with lower level of safety climate (Kelloway et al., 2006; Zohar, 2002). Moreover, Leymann (1996a) suggested that poor conflict management of the supervisor might also be a risk factor for the occurrence of workplace bullying. Therefore, a passive avoidant leadership style may create a stressful and frustrating work environment and, according to the work environment hypothesis, thus, increase the risk of workplace bullying incidents. Indeed, Skogstad, Einarsen et al. (2007) found that role conflict, role ambiguity and conflicts with colleagues acted as mediator between passive avoidant leadership style and workplace bullying. Therefore, according to Salin (2003b) passive avoidant leadership style may be thought of as enabling structure of workplace bullying.

Finally, it has been suggested that organizational change may increase workplace bullying incidents (Salin & Hoel, 2011). As organizational change may have an influence on all the previous discussed risk factors (e.g., changing work organization and job design, organizational culture and climate, leadership, reward systems and competition) many mechanisms that explain this link can be hypothesized. Some studies that have linked different organizational changes with aggression and the occurrence of workplace bullying (Baillien & De Witte, 2009; Baron & Neuman, 1996; Hoel & Cooper, 2000; Notelaers et al., 2010; Rayner, 1997; Skogstad, Matthiesen et al., 2007; Spagnoli, Balducci, & Fraccaroli, 2017). For instance, Skogstad, Matthiesen et al. (2007) found that work environment changes (e.g., change in management, change in the composition of the workforce) as well as reduction in staff and pay were significantly related with task- and person-related bullying. Moreover, Baillien and De Witte (2009) also found a relationship between organizational change and workplace bullying and that this association was mediated through role conflict and job insecurity. Finally, using a longitudinal two-wave design with a time lag of two years Holten et al. (2017) found an

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[33] Notably, passive avoidant leadership style is highly interrelated with an autocratic (Hoel et al., 2010) and tyrannical leadership style (Skogstad, Aasland, Nielsen, Hetland, Matthiesen & Einarsen, 2014).

association between organizational change and subsequent workplace bullying exposure and perpetration. However, the link between different kinds of organizational change and workplace bullying are under-researched and still not well understood (Salin & Hoel, 2011).

1.5.5. Societal and cultural antecedents

It has already been discussed, that estimates of workplace bullying exposure and prevalence rates vary extensively between countries. While some of these differences are due to research methodology (e.g., measurement technique; Nielsen et al., 2010), cultural perceptions and response behavior (see Section 1.4.2), and cultural characteristics may also be risk factors of the occurrence of workplace bullying (Li & Lim, 2017). For instance, masculinity may be correlated with frequency and overtness of workplace bullying and aggression as masculine cultures may value interpersonal relationships less than feminine cultures (Irani & Oswald, 2009). However, empirical research on societal and cultural risk factors and culture as moderator variable is sparse (Li & Lim, 2017). One of few exceptions is the study by Liu, Chi, Friedman and Tsai (2009) that found that collectivism and collectivistic orientation was negatively correlated with workplace incivility and that collectivistic orientation buffered the effects of individual achievement orientation and direct conflict self-efficacy on the occurrence of workplace incivility. Furthermore, Van de Vliert et al. (2013) found that a cultural in-group orientation was negatively correlated with workplace harassment. Moreover, they found that employees in poorer countries with more demanding climates, such as very cold winters and/or very warm summers reported higher levels of workplace harassment compared to employees living in temperate climate regions. Additionally, using data from the World Value Survey, Van de Vliert et al. (2013) found that workplace harassment seems to be more prevalent in countries with either survival or self-expression cultures (Inglehart & Baker, 2000) compared to countries with cultures that are intermediate between those extremes. Therefore, not all workplace bullying research findings may generalize across countries and cultures as cultural factors (e.g., power distance, social identity) may be moderating variables (in some) of these findings (Li & Lim, 2017; see also Giorgi, Leon-Perez, & Arenas, 2015; Loh, Restubog, & Zagenczyk, 2010).

1.5.6. Conclusion and lack of research

In sum, a robust research finding is the fact that workplace bullying targets report a poorer work environment than non-targets. However, some restrictions of the research on workplace bullying risk factors have to be considered (Neall & Tuckey, 2014; Salin & Hoel, 2011; Rai & Agarwal, 2016). Most of the studies that investigated antecedents of workplace bullying employed a cross-sectional design that does not allow for causal inference. This is

problematic as the other causal direction (i.e., workplace bullying leads to a poor psychosocial work environment), or a correlation based on shared common causes (e.g., depressive employees are more likely to perceive workplace bullying victimization and a poor psychosocial work environment; Spector, Zapf, Chen, & Frese, 2000)[34] is also theoretically plausible and cannot be ruled out statistically (Zapf, 1999). There are only few studies that used a longitudinal design (Baillien, De Cuyper et al., 2011; Baillien, Rodriguez-Muñoz et al., 2011; Balducci, Cecchin, & Fraccaroli, 2012; Dollard et al., 2017; Hauge et al., 2011; Reknes et al., 2014). These studies, however, used quit long measurement intervals, that varied between six months (e.g., Baillien, De Cuyper et al., 2011) and two years (e.g., Hauge et al., 2011). Importantly, the time lag considered in longitudinal studies is a critical element for the effects under research. If the time lag is too short, the causal process has not yet had enough time to unfold itself. If the time lag is too long, the effect of the causal process has already disappeared or overlaps with other effects (Tarris, 2000). This may explain the mixed findings regarding personality (e.g., Nielsen & Knardahl, 2015; Podsiadly & Gamian-Wilk, 2017) and work environment factors (Baillien, Rodriguez-Muñoz et al., 2011; Hauge et al., 2011) as antecedents or consequences of workplace bullying and the diagnosed predictor-outcome overlap (Hershcovis & Reich, 2013).

A second restriction is the sparse theoretical knowledge and empirical research on the mechanisms between different work environment factors and the occurrence of workplace bullying. The work environment hypothesis is an often used theoretical vehicle when work factors are under study as risk factors for workplace bullying (e.g., Hauge et al., 2011). However, stress and frustration have seldom tested as mediators (for an exception see Spagnoli et al., 2017). Therefore, different mechanisms between work factors and bullying could be hypothesized (e.g., bullying as cognitive reaction or rent seeking behavior; Kräkel, 1997). The same holds true for personality factors. We still know little which of Nielsen and Knardahl's (2015) proposed mechanisms has more explanatory power and we know even less about the more fined grained processes that link workplace bullying exposure and different personality factors.

The third restriction is the limited number of studies regarding interaction effects of workplace factors on the occurrence of workplace bullying (Rai & Agarwal, 2016, 2018a). Studying intervening mechanisms is crucial as they have potential to bring in more explanatory

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[34] Indeed, when studies controlled for negative affectivity, the association between work factors and workplace bullying exposure became weaker (e.g., Bowling et al., 2010).

power into research and advance the theoretical knowledge of the phenomenon under study. Furthermore, the identification of important moderators is indicative of the maturity and sophistication of a research area (Frazier Tix, & Barron, 2004; Judd, McClelland, & Culhane, 1995). Studying boundary conditions of workplace environment risk factors may reveal their mechanisms and settings where they do not trigger workplace bullying.

Fourth, studies on work environment risk factors have predominantly focused on being a target of workplace bullying and have only recently begun to include perpetration (Neall & Tuckey, 2014). Therefore, only little is known whether organizational risk factors have equal effects on the enactment of bullying behavior (e.g., Baillien, Rodriguez-Muñoz et al., 2011). The process that link work environment factors with workplace bullying perpetration could be equal or quite different compared to the process that link work environment factors with workplace bullying exposure.

1.6. Individual consequences of workplace bullying

Over the past decades, an impressive number of studies has shown various negative effects of workplace bullying and harassment on target's psychological and physiological health, attitudes, behavior and relationships that are synthesized and aggregated in many meta-analyses (Bowling & Beehr, 2006; Hershcovis, 2011; Hershcovis & Barling, 2010a; Mackey, Frieder, Brees, & Martinko, 2017; Nielsen & Einarsen, 2012; Schyns & Schilling, 2013; Verkuil et al., 2015; Zhang & Liao, 2015). Scholars that researched the outcomes of workplace bullying from the targets' perspective have employed several theoretical frameworks. However, the shared themes that link many of these theoretical frameworks is the emphasis on stressors, stress, and strains (Lazarus & Folkman, 1984; e.g., Bowling & Beehr, 2006; Hershcovis & Barling, 2010a; Pindek, Arvan, & Spector, 2018). Workplace *stressors* are conditions of the work environment that are potentially harmful to the employee and that require adaptive responses, such as role conflict, role ambiguity, and time pressure. Workplace bullying exposure can be regarded as a strong (maybe the strongest; Hauge, Skogstad, & Einarsen, 2010) workplace stressor (Spector & Jex, 1998). The negative health outcomes of these stressors are called *strains* (e.g., negative affect, depression, burnout, physical symptoms). Furthermore, studies on work stress have consistently suggested that workplace stressors lead to adverse job attitudes (e.g., Hershcovis & Barling, 2010a). Therefore, workplace bullying exposure is likely to negatively affect employees' feelings about their job. The stressor model proposes that workplace bullying exposure is an event that may cause employees to fear for their well-being.

1.6.1. Psychological health

One of the most well-researched outcomes of workplace bullying exposure is decreased or even damaged *psychological/mental health* and *well-being*. Well-being is a broad category of phenomena that includes people's emotional responses, domain satisfaction (e.g., job satisfaction), and global judgements of life satisfaction that are all highly correlated (Diener, Suh, Lucas, & Smith, 1999). A related concept to workplace bullying, 'emotional abuse' (Keashly, 1998) already points to the fact that workplace bullying exposure may result in strong negative emotional response in the target. Indeed, Bowling and Beehr (2006) found in their meta-analysis that workplace harassment was significantly related to reduced positive emotions and increased negative emotions at work. Mackey et al. (2017) found that abusive supervision, a special case of workplace bullying, was also related to higher negative affectivity and lower positive affectivity. Furthermore, meta-analyses found correlations between exposure to workplace bullying and mental health between .34 (Nielsen & Einarsen, 2012) and .36 (Verkuil et al., 2015). Low psychological mental health and well-being can increase psychological distress within individuals, as they continuously have to cope with poor psychological health (Manier, Kelloway, & Francis, 2017). Moreover, longitudinal research provided evidence for the workplace bullying as cause and mental health as consequence hypothesis (Nielsen & Einarsen, 2012, Trépanier, Fernet, & Austin, 2016; Verkuil et al., 2015). However, aggregating longitudinal studies Nielsen and Einarsen (2012) found not only a longitudinal effect of workplace bullying on mental health (.20) but also the reverse effect of nearly equal strength (.19), indicating not only a stressor-strain but also a strain-stressor perspective. Furthermore, meta-analytical (Bowling & Beehr, 2006) as well as longitudinal research (Trépanier et al., 2016) indicated a link between workplace bullying exposure and decreased life satisfaction.

Workplace bullying has also been linked to more specific mental health measures such as self-esteem, anxiety, depression and Post-Traumatic Stress Disorder (PTSD) as well as work-related health measures such as burnout and, more specific, the sub dimension emotional exhaustion. *Self-esteem* describes a positive self-evaluation (Baumeister et al., 1996). Several studies, synthesized in meta-analysis showed an association between workplace harassment and reduced self-esteem (Bowling & Beehr, 2006). However, Nielsen and Einarsen (2012) did not find an association between workplace bullying and core self-evaluation, a concept that is related to self-esteem. *Anxiety* refers to feelings of fear, worry, apprehension and even panic, while depression refers to poor mood, sadness and low energy (Clark & Watson, 1991). Meta-analyses provided evidence for the workplace bullying exposure and anxiety/depression relationship (Hershcovis & Barling, 2010a; Nielsen & Einarsen, 2012; Verkuil et al., 2015).

Longitudinal evidence provided further support for the workplace bullying and anxiety/depression relationship (Bonde et al., 2016; Einarsen & Nielsen, 2015; Finne, Knardahl, & Lau, 2011; Hogh et al., 2016; Lahelma, Lallukka, Laaksonen, Saastamoinen, & Rahkonen, 2012; Nielsen et al., 2012; Reknes et al., 2014, Reknes, Einarsen, Pallesen, Bjorvatn, Moen, & Magerøy, 2016). Furthermore, Hauge et al. (2010) found that among all job-related stressors (i.e., job demands, decision authority, role ambiguity, role conflict) workplace bullying was the strongest predictor of anxiety and depression. Similarly, to Nielsen and Einarsen (2012), Verkuil et al. (2015) found a reverse link between anxiety and stress-related health complaints and the occurrence of workplace bullying aggregating evidence from longitudinal studies. Meta-analyses also provided evidence for the link between workplace bullying and *PTSD* (Nielsen Tangen, Idsoe, Matthiesen, & Magerøy, 2015; Nielsen & Einarsen, 2012). Finally, meta-analytical (Bowling & Beehr, 2006; Nielsen & Einarsen, 2012) as well as longitudinal evidence (Trépanier, Fernet, & Austin, 2015) linked workplace bullying exposure with an increase in *burnout*, especially emotional exhaustion (Hershcovis & Barling, 2010a).

Moreover, given the detrimental effect of workplace bullying on target's psychological health, scholars have early hypothesized that bullying might be associated with suicide and suicidal ideation (Leymann, 1990b). Recent research confirmed the link between workplace bullying and *suicidal ideation* (Leach et al., 2016). This association has also been shown in longitudinal research (Nielsen, Nielsen, Notelaers, & Einarsen, 2015, Nielsen, Einarsen, Notelaers, & Nielsen, 2016).

1.6.2. Physiological health

Given the detrimental effects of workplace bullying exposure on psychological health and its role as serious workplace stressor (Hauge et al., 2010), it is also highly likely and has been theorized that bullying exposure also may have an influence on the target's *physiological health* (e.g., Leymann & Gustafsson, 1996). Chronic exposure to workplace bullying may increase the likelihood of psychosomatic symptoms, hormonal imbalances, musculoskeletal complaints, cardiovascular/heart disease, diabetes, and sleep problems. Studies, investigating the relationship between workplace bullying exposure and physical health often use self-report measures of different physical health problems and *psychosomatic complaints* that are combined into a measure of general physical health (e.g., Agervold & Mikkelsen, 2004; Hansen et al., 2006; Takaki, Taniguchi, & Hirokawa, 2013). The symptoms include pain in the stomach back and limb, headaches and nausea among others. The linkage between workplace bullying exposure and psychosomatic complaints have been shown several times and summarized in

meta-analyses (Bowling & Beehr, 2006; Nielsen & Einarsen, 2012). Moreover, Bonde et al. (2016) showed in their longitudinal study that being exposed to workplace bullying was linked with subsequent decrease of *self-rated health*. Furthermore, research indicates that targets of workplace bullying suffer from *hormonal imbalance* (e.g., Di Rosa et al., 2009; Hansen et al., 2006, 2011; Kudielka & Kern, 2004; Monteleone et al., 2009) that has been linked to a wide range of negative health outcomes and chronic health problems (Ursin & Eriksen, 2010). Moreover, workplace bullying exposure is associated with *musculoskeletal complaints*, such as wrist, hand, neck and lower back pain (Einarsen, Raknes, Matthiesen, & Hellesoy, 1996; Vie, Glasø, & Einarsen, 2012; Zhou et al., 2015) and that can develop into chronic musculoskeletal disorder. Longitudinal studies have also linked workplace bullying exposure with subsequent increase of *cardiovascular health problems* (Kivimäki et al., 2003; Tuckey, Dollard, Saebel, & Berry, 2010). Furthermore, being exposed to workplace bullying is associated with a higher risk of *type-2 diabetes* (Xu et al., 2018). Finally, cross-sectional (Niedhammer, David, Degioanni, Drummond, & Philip, 2009; Rodríguez-Muñoz, Notelaers, & Moreno-Jiménez, 2011; Takaki et al., 2010) and longitudinal (Hansen, Hogh, Garde, & Persson, 2014, Lallukka, Rahkonen, & Lahelma, 2011) studies have linked workplace bullying exposure with (subsequent) *sleep problems*. Notably, a recent meta-analysis did not support these findings (Nielsen & Einarsen, 2012). However, this could be due to the limited number of studies (i.e., 4 studies) that were included.

1.6.3. Attitudes

Being exposed to workplace bullying is also associated with several negative *work-related attitudes*, such as reduced job satisfaction, affective commitment, engagement, and turnover intentions. Moreover, workplace bullying is linked with decreased fairness, justice and social support perceptions. While job satisfaction reflects an employee's general evaluation of his/her job, affective commitment describes the relative strength of an employee's (emotional) identification with his/her organization (Meyer & Allen, 1991). Turnover intention describes the cognitive process that contain certain phases between the evaluation of the current job and the evaluation of alternative employment that ultimately form turnover intentions (Mobley, 1977). Finally, work engagement is defined "as a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption" (Schaufeli, Salanova, González-Romá, & Bakker, 2002, p. 74). As psychological health and physiological health is impaired through workplace bullying exposure and psychological health, such as self-esteem is related to job satisfaction (Judge & Bono, 2001), it is not surprising that being a target of workplace

bullying has been linked several times with reduced *job satisfaction* as indicated by meta-analyses (Bowling & Beehr, 2006; Hershcovis & Barling, 2010a; Lapierre, Spector, & Leck, 2005; Nielsen & Einarsen, 2012). The link between workplace bullying exposure and job satisfaction was also supported within longitudinal studies (Rodríguez-Muñoz et al., 2009). Job satisfaction, in turn, is highly correlated with several other attitudes, such as affective commitment, turnover intentions (Meyer, Stanley, Herscovitch, & Topolnytsky, 2002; Tett & Meyer, 1993) and work engagement (Newman, Joseph, & Hulin, 2010). Therefore, it is not surprising that meta-analyses also found a link between workplace bullying exposure and decreased *affective commitment* and increased *turnover intentions* (Bowling & Beehr, 2006; Nielsen & Einarsen, 2012; Hershcovis & Barling, 2010a). Longitudinal studies also support the relationship between workplace bullying exposure and increased turnover intentions (Glambek, Matthiesen, Hetland, & Einarsen, 2014; Trépanier et al., 2015). Furthermore, several recent cross-sectional (e.g., Einarsen, Skogstad, Rørvik, Lande, & Nielsen, 2016; Goodboy, Martin, & Bolkan, 2017; Park & Ono, 2017; Rai & Agarwal, 2017) as well as longitudinal studies (Rodríguez-Muñoz et al., 2009; Trépanier et al., 2015) found an association between workplace bullying exposure and (subsequent) decreased *work engagement*. Moreover, workplace bullying exposure was related with reduced *fairness* and *justice perceptions* in meta-analyses (Bowling & Beehr, 2006, Mackey et al., 2017), and specific sub forms of justice perceptions such as *psychological contract violation* in cross-sectional studies (Salin & Notelaers, 2017; Rai & Agarwal, 2017).

1.6.4. Behavior

Research on workplace bullying does not only indicate detrimental effects of workplace bullying on health and attitude but also on the *behavior* of the targets. Recent research has especially focused on behavioral outcomes of workplace bullying that is of crucial interest for organizations, namely performance, absenteeism, actual turnover, work disability, deviant and counterproductive work behavior. Furthermore, workplace bullying exposure was linked with subsequently unemployment, disability retirement and substance abuse. As psychological and physiological health (Ford, Cerasoli, Higgins, & Decesare, 2011), job satisfaction (Wright & Cropanzano, 2000) and self-esteem (Judge & Bono, 2001) are important predictors of performance, one could hypothesize that workplace bullying exposure might be associated with a decrease in work performance. However, meta-analyses found only weak or no relationship between workplace bullying exposure and *performance* (Bowling & Beehr, 2006; Nielsen & Einarsen, 2012). However, they included only a small number of studies. Furthermore, the

findings of the meta-analysis by Hershcovis and Barling (2010a) indicate that the source of aggression might be a moderator on the workplace bullying-performance association as the link was stronger when the supervisor was the perpetrator. Moreover, workplace bullying and harassment exposure has been linked to employee's *silence* (Rai & Agarwal, 2018b; Xu, Loi, & Lam, 2015) that describes an employee's "withholding of any form of genuine expression about the individual's behavioral, cognitive and/or affective evaluations of his or her organizational circumstance to persons who are perceived to be capable of effecting change or redress" (Pinder & Harlos, 2001, p. 334). Cross-country (Niedhammer, Chastang, Sultan-Taïeb, Vermeylen, & Parent-Thirion, 2012), meta-analytical (Bowling & Beehr, 2006; Nielsen & Einarsen, 2012) as well as longitudinal studies (Grynderup et al., 2016, 2017; Hansen et al., 2018; Nabe-Nielsen et al., 2016; Nielsen & Einarsen, 2012) have linked being exposed to workplace bullying and *absenteeism*. However, somewhat contrary, Conway, Clausen, Hansen and Hogh (2016) found a cross-sectional and longitudinal association between workplace bullying exposure and (subsequent) *sickness presenteeism*. Some scholars suggested that targets may turn up for work in order to demonstrate their commitment and loyalty and that feelings of guilt may prevent them from taking days off (Hoel, Sheehan, Cooper, & Einarsen, 2011) in order to explain these contrary findings. Moreover, some large-scale studies found that workplace bullying exposure was not only linked to higher turnover intentions but also to actual turnover (Berthelsen, Skogstad, Lau, & Einarsen, 2011; Glambek, Skogstad, & Einarsen, 2015; Hogh, Hoel & Carneiro, 2011; Nabe-Nielsen et al., 2017). This is also in line with the finding that workplace bullying exposure has been linked with higher *job insecurity* (De Cuyper et al., 2009; Glambek, Matthiesen, Hetland, & Einarsen, 2014; Park & Ono, 2017). Meta-analytical evidence also found a link between workplace harassment exposure and increased *counterproductive* and *deviant work behavior*, such as lying, damaging property, and aggression towards other organizational members (Bowling & Beehr, 2006; Hershcovis, Barling, 2010a; Mackey et al., 2017; Park, Hoobler, Wu, Liden, Wilson, 2017). Targets of workplace bullying are also at higher risk for becoming *unemployed* (Glambek et al., 2015) and for *disability pension* (Berthelsen et al., 2011) and *retirement* (Nielsen, Emberland, & Knardahl, 2017; Sterud, 2013). Finally, several large-scale studies have found an association between workplace bullying exposure and *substance use*, such as psychotropic medication (Lallukka, Haukka, Partonen, Rahkonen, & Lahelma, 2012; Niedhammer, David, Degioanni, Drummond, & Philip, 2011; Traweger, Kinzl, Traweger-Ravanelli, & Fiala, 2004; Vartia, 2001) and alcohol (McFarlin, Fals-Stewart, Major, & Justice, 2001; Giorgi, 2010; Richman, Rospenda, Flaherty,

& Freels, 2001, Richman, Shinsako, Rospenda, Flaherty, & Freels 2002; Rospenda, Fujishiro, Shannon, & Richman, 2008; Rospenda, Richman, Wolff, & Burke, 2013).

1.6.5. Mediators and moderators

Beside the first hypothesized explanation that workplace bullying leads to increased stress that explains all the later outcomes (Leymann, 1996a, Zapf et al., 1996), in recent years, more fine grain theories have been suggested and empirically tested to explain the various outcomes of workplace bullying exposure. Scholars have emphasized the role of the target's attribution and perception of the workplace bullying situation (e.g., Aquino et al., 2001; Bowling & Beehr, 2006; Cortina & Magley, 2009; Rayner, 1999; Samnani, 2013; Samnani, Singh, & Ezzedeen, 2013) with a special focus on social exchange theory and related phenomena, such as psychological contract violation (Parzefall & Salin, 2010; Rai & Agarwal, 2018a). Furthermore, other scholars have stressed the role of *basic needs* (satisfaction and frustration) with a special focus on *self-determination theory* (Trépanier, Fernet, & Austin, 2013, 2015, 2016) in order to understand workplace bullying exposure outcomes.

1.6.5.1. *Perception, appraisal and attribution*

In order to understand individual consequences of being a target of workplace bullying, one has to understand the target's *perception*, *appraisal* and *attribution* of the mistreatment. When persons encounter potential stressors (e.g., workplace bullying exposure), a multistage cognitive-emotional process is triggered that evaluates the meaning of the stressor for their actual and future health and well-being (Lazarus & Folkman, 1984). This appraisal process tries to determine the degree of potential harm, threat or challenge for the affected person (Cortina, & Magley, 2009) as well as reasons (attribution process) for its occurrence. The outcome of this evaluation process affects the attitudinal and behavioral response to the perceived stressor and leads to "cognitive and behavioral efforts to manage specific external and/or internal demands" (Lazarus, & Folkman, 1984, p. 141). These efforts include the regulation of the demanding situation, its meaning and the emotional response. The bullying experience could be self-, perpetrator-, and/or organization-attributed (Bowling, & Beehr, 2006; Lee & Brotheridge, 2017). In the case of self-attribution, the bullying exposure is experienced primarily in terms of stress (Bowling, & Beehr, 2006). Self-attribution should not lead to reciprocal exchange with the perpetrator(s) or with the organization but may lead simple to regulation of emotion and cognitions in response to reduce the strain (Niven et al., 2013; Oh & Farh, 2017). However, if targets attribute the cause of the exposure to the perpetrator, further factors have an influence on the appraisal and therefore on the attitudinal and behavioral

reactions of these experiences. The appraisal and outcome of the bullying experience (e.g., degree of threat) depends on the target's characteristics (e.g., equity sensitivity), the perceived characteristics of the perpetrator (e.g., trait hostility), the characteristics of the relationship between target and perpetrator (e.g., perceived social power of perpetrator), the characteristics of negative acts (variety, frequency, duration) and the justification and perceived intent of the perpetrator (Cortina, & Magley, 2009; Oh & Farh, 2017). For instance, the appraisal of an offending situation (i.e., severity of offense) has been linked to attribution of blame (Bradfield & Aquino, 1999). The experience of aggressive and negative acts can strengthen an employee's desire to retaliate against the source of aggression and seek revenge (Jones, 2009), especially, when the perpetrator is made accountable for the exposure (Bradfield & Aquino, 1999). However, not only the perpetrator but the organization as well can be made responsible for the ongoing bullying exposure (Parzefall & Salin, 2010).

1.6.5.2. *Psychological contract violation*

To further understand the attribution process, individual perceptions of, and reactions to workplace bullying exposure, scholars have relied on social exchange theory and related concepts such as psychological contract breach and violation (e.g., Parzefall & Salin, 2010). The employee-organization relationship has been described as a reciprocal social exchange relationship between employer and employee (Coyle-Shapiro & Parzefall, 2008; Coyle-Shapiro & Shore, 2007; Shore, Coyle-Shapiro, Chen, & Tetrick, 2009). Employees may develop exchanges with organizations for economic as well as for socioemotional reasons (Shore, Tetrick, Lynch, & Barksdale, 2006). This is captured within Blau's (1964) distinction between economic and social exchange. Economic exchange "demand repayment within a particular time period, involve exchanges of economic or quasieconomic goods, and are motivated by personal self-interest" (Cropanzano & Mitchell, 2005, p. 882). In contrast, social exchange constitutes a long-term and open-ended interaction that is characterized by trust, mutual commitment and socioemotional investments (Shore et al., 2006). The norm of *reciprocity* (Gouldner, 1960) is crucial within a social exchange relationship that involves a series of interactions that generate unspecified obligations among the involved parties (Cropanzano & Mitchell, 2005)[35]. Employer-employee relationships are characterized by both social and economic exchange (Shore et al., 2006). Some details of this relationship are formalized (e.g., payment, working hours) while others are an issue of trust (e.g., safe work environment, work effort). Applying social exchange theory in a working context means that employees repay

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[35] Although there exist different views on social exchange, they all agree on this central theme of social exchange theory (Cropanzano & Mitchell, 2005).

favorable working conditions through positive work attitudes (e.g., higher job satisfaction) and behavior (e.g., better work performance), but also adjust their attitudes and behavior downward in response to perceived unfavorable treatment (Parzefall & Salin, 2010). The concept of *psychological contract* builds up on the ideas and theoretical developments of the social exchange theory (Coyle-Shapiro & Parzefall, 2008).[36] In essence, psychological contracts describe the employees' belief about the reciprocal obligations between them and their organization (Rousseau, 1989). In contrast to written and formalized contracts, psychological contracts are thus often informal, implicit and subjective (Morrison & Robinson, 1997). *Psychological contract breach* refers to the employee's perception of the organization's failure to fulfil its obligations. The norm of reciprocity may explain why psychological contract breach is linked with negative attitudinal and behavioral outcomes (Shore & Tetrick, 1994). If the employee sees the obligations on his/her side as fulfilled, a perceived broken promise/obligation on the side of the organization then infringes the norm of reciprocity. Whereas psychological contract breach refers to the cognitive perception of failure to fulfil a promise/obligation, *psychological contract violation* refers to the affective response of this perceived breach and includes frustration, anger, bitterness, resentment, and feelings of betrayal directed at the organization (Morrison; & Robinson, 1997; Robinson & Morrison, 2000). The link between psychological contract breach and violation depends on the interpretation of the perceived breach (Robinson & Morrison, 2000). After perceiving a breach, employees engage in a cognitive sense-making process in order to attach meaning to the breach and why it occurred (Morrison; & Robinson, 1997). This interpretation process affects the relationship between the perceived contract breach and feelings of violation. For instance, if the breach is attributed to reneging the relationship between breach and violation will be stronger, whereas an attribution to misunderstanding will weaken this relationship (Robinson & Morrison, 2000). Furthermore, perceived interactional fairness and experienced interpersonal treatment (e.g., honesty, respect, consideration, adequate explanation) also moderates the association between perceived breach and feelings of violation (Robinson & Morrison, 2000). Two meta-analysis confirmed the negative consequences of a perceived psychological contract breach on work attitudes and behavior, including trust, job satisfaction, organizational commitment, organizational citizenship behavior, in-role performance as well as turnover intentions (Bal, De Lange, Jansen, & Van Der Velde, 2008; Zhao, Wayne, Glibkowski, & Bravo, 2007). Moreover, psychological contract violation has been shown to be an important mediator between breach and the various

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[36] For a critical review of the psychological contract concept, see Cullinane and Dundon (2006) and Guest (1998).

negative outcomes (Raja, Johns, & Ntalianis, 2004; Robinson, Morrison, 2000; Suazo, 2009; Zhao et al., 2007). The concept of psychological contract (i.e., breach and violation) may also offer an in-depth explanation for the link between workplace bullying exposure and organizationally relevant attitudes and behavior (Salin & Notelaers, 2017). Shaped through pre-employment schemas, the recruitment process, and post-hire socialization (Rousseau, 2001), employees have certain expectations concerning 'acceptable' workplace conditions (Salin & Notelaers, 2017). Specifically, employees are likely to expect that their employer provides a safe work environment and that they will be treated with respect and dignity (Keashly, 2001). However, when an employee becomes the target of permanent negative acts this expectation would certainly be violated. In this regard, workplace bullying exposure "violates the social norms governing the exchange relationship and can thus be perceived as contract breach" (Parzefall, & Salin, 2010, p. 769). As a consequence of experiencing these violations of expected social norms at the workplace, targets of bullying will expect the organization to end this mistreatment (Parzefall, & Salin, 2010). If the organization fails to react accordingly, this will result in feelings of betrayal in the target. Therefore, a perceived contract breach that fosters feelings of psychological contract violation may serve as the mechanism through which workplace bullying exposure leads to a negative evaluation of the employment relationship (Parzefall, & Salin, 2010) and the associated negative attitudes that come with this evaluation (e.g., lower work engagement and job satisfaction, higher turnover intentions, etc.). Initial studies applying a psychological contract perspective on the relationship between workplace bullying exposure and negative outcomes support these theoretical thoughts. For instance, Salin and Notelaers (2017) found that workplace bullying exposure increased perceived psychological contract violation, which in turn led to higher turnover intentions. Furthermore, Rai and Agarwal (2017) showed that psychological contract violation mediated the effect of workplace bullying exposure on work engagement. Moreover, Rai and Agarwal (2018b) found psychological contract violation to be the mediator between workplace bullying exposure and employee silence. Additionally, Kakarika, González-Gómez and Dimitriades (2017) showed in an experimental study that a workplace bullying exposure scenario was associated with psychological contract breach. In an additional cross-sectional survey, they found that psychological contract breach mediated the association between workplace bullying exposure and job as well as life satisfaction. Regarding these first promising studies and previous general studies on the concept of psychological contract (e.g., Bal, Chiaburu, & Jansen, 2010; Bal et al., 2008; Bordia et al., 2008; Guest & Conway, 2009; Jamil, Raja, & Darr, 2013; Rayton & Yalabik, 2014; Rigotti, 2009; Zhao et al., 2007), one could further hypothesize that

psychological contract violation depicts the mechanism between workplace bullying exposure and further negative outcomes.

1.6.5.3. *Basic need frustrations*

Many scholars have theorized about the associations between certain needs and general well-being and motivation (e.g., Maslow, 1943; Murray, 1938; McClelland, 1965; Sheldon, Elliot, Kim, & Kasser, 2001). Yet, few of these theories have stimulated as much research on needs as the *self-determination theory* (SDT; Van den Broeck, Ferris, Chang, & Rosen, 2016). SDT starts with the postulation "[…] that humans are active, growth-oriented organisms, who are naturally inclined toward integration of their psychic elements into a unified sense of self and integration of themselves into larger social structures" (Deci & Ryan, 2000, p. 229). Stated otherwise, SDT suggests that human organisms are intrinsic motivated to engage in interesting activities, exercise capacities, build relationships in social groups, and to integrate intrapsychic and interpersonal experiences into a relative unity (Deci & Ryan, 2000). However, these natural organismic activities require fundamental nutriments, namely support for the experience of autonomy, competence and relatedness. Therefore, SDT assumes that autonomy, competence and relatedness are three basic psychological needs that have to be satisfied in order to achieve optimal functioning, experience well-being and induce intrinsic motivation in humans (Deci & Ryan, 2000). If these needs are hindered by non-favorable conditions or need thwarting environments (e.g., excessively controlling, overchallenging or rejecting contexts), the natural tendency of humans to move toward growth is at risk and may even be replaced with defensive and maladaptive functioning (Vansteenkiste & Ryan, 2013). The *need for autonomy* refers to the individuals' desire to experience volition and self-endorsement (Ryan & Deci, 2006), act with a sense of ownership of their behavior and feel psychologically free (Van den Broeck et al., 2016)[37]. The *need for competence* refers to the experience of a sense of mastery and effectiveness in dealing with one's environment, to develop new skills, and to attain desired outcomes (White, 1959). Finally, the *need for relatedness* refers to the experience of being connected, loved, and cared by significant others (Baumeister & Leary, 1995). Ryan (1995) used the metaphor that just as plants need water and sunlight to grow and flower, the satisfaction of these fundamental basic psychological needs is essential for humans' psychological thriving and for their protection from ill health and maladaptive functioning. Compared to other theories that investigate needs (e.g., McClelland, 1965, 1985), the basic needs of SDT are seen as innate rather than a result of socialization and learning (Deci & Ryan, 2000). Therefore, individual

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[37] It is important to note that the need for autonomy does not imply a need to act independently from the desires and requests of others (Van den Broeck et al., 2016).

differences of need strengths are not the primary focus of SDT (Deci & Ryan, 2000)[38], but rather the social environment. SDT distinguish social environments as need supportive, need depriving or need thwarting. Thus, actors in the environment can be actively fostering of, indifferent to, or antagonistic toward the individual's satisfaction of needs (Vansteenkiste, Ryan, 2013). This points to an important distinction that can be made between need satisfaction and need frustration. Whereas *satisfaction* of the basic needs contributes to proactivity, integration and well-being, the *frustration* of these needs leads to passivity, fragmentation and ill-being (Vansteenkiste & Ryan, 2013). An origin premise of SDT is that every need is equal important and the satisfaction of only one or two are not enough to achieve optimal functioning (Deci & Ryan, 2000). However, Van den Broeck et al. (2016) showed that the different basic needs have a similar but distinguishable nomological network. Therefore, the needs seem to differ regarding their importance in predicting certain outcomes. Since the seminal work of Deci and Ryan (2000), SDT have become an important theory in work psychology. Indeed, research has linked need satisfaction in the work context to various important measures (Deci, Olafsen, & Ryan, 2017; Van den Broeck, et al., 2016). The satisfaction of needs have been meaningfully linked with various job stressors (e.g., job demands, workload, emotional demands) and resources (e.g., skill variety, job autonomy, social support, feedback) as well as with health (e.g., well-being, burnout), and work-related attitudes (e.g., job satisfaction, affective commitment) and behavior (e.g., absenteeism, task performance; Van den Broeck et al., 2016). Furthermore, basic need satisfaction and frustration have been proposed and empirically tested as mediators in many different contexts (e.g., Schultz, Ryan, Niemiec, Legate, & Williams, 2015; Vander Elst, Van den Broeck, De Witte, & De Cuyper, 2012). Moreover, based on previous research (Trépanier, Fernet, & Austin, 2013, 2015, 2016) one could hypothesize that workplace bullying exposure may thwart all three basic psychological needs (Aquino & Thau, 2009). Workplace bullying may manifest itself through excessive controlling behavior that aims at restricting the target's freedom, volition and self-endorsement of choices and actions (e.g., unreasonable deadlines). These negative acts likely result in employee's feelings of being constraint and repressed, thwarting his/her need for autonomy (Trépanier et al., 2015, 2016). Furthermore, perpetrators of workplace bullying may also aim at cutting down the targets accomplishments (e.g., persistent criticism), or taking the target 'out of the game' (e.g., by ordering him/her to do work below their level of competence), consequently thwarting employee's need for competence (Trépanier et al., 2015, 2016).

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[38] However, some recent studies also take the need strength into account (e.g., Van Assche, van der Kaap-Deeder, Audenaert, De Schryver, & Vansteenkiste, 2018).

Moreover, perpetrators may also aim to isolate and ostracize the bullying target (e.g., exclusion from social events) that may thwart his/her need for relatedness (Trépanier et al., 2013). Therefore, it may be hypothesized that frustration of basic needs constitutes the mechanism through which workplace bullying exposure leads to detrimental effects on the target's health, work-related attitudes, and behavior. This has been empirically supported by recent studies that have found basic need satisfaction/frustration to mediate the relationship between workplace bullying exposure and burnout (Trépanier et al., 2013), work engagement (Goodboy et al., 2017; Trépanier et al., 2013, 2015), turnover intentions (Trépanier et al., 2015), psychosomatic complaints, life satisfaction (Trépanier et al., 2016), and organizational deviance (Lian, Ferris, & Brown, 2012b).

1.6.6. Conclusion and lack of research

Aside from the astonishing studies that have linked workplace bullying exposure with impaired health, attitudes and behavior of the target, we still know little about the mechanisms or the "why" and "when" of these relations. Nevertheless, the importance of researching potential mediators and moderators have been recognized and begin to yield results (e.g., Glambek et al., 2018; Rai & Agarwal, 2016, 2018a; Robinson, Wang, & Kiewitz, 2014). Especially two theories have gained attention to explain the link between workplace bullying and various negative consequences. This includes a social exchange perspective — particularly psychological contract violation (e.g., Salin & Notelaers, 2017) — and the frustration of basic psychological needs (e.g., Trépanier et al., 2013). Initial studies applying a psychological contract perspective and basic need satisfaction/frustration as mediators between workplace bullying exposure and various negative outcomes provided promising results. However, some considerations have to be taken into account. Regarding psychological contract violation, the mediation effect has only been established for turnover intentions (Salin & Notelaers, 2017) and work engagement (Rai & Agarwal, 2017). Moreover, using the cognitive concept of failure to fulfill one's psychological contract, Kakarika et al. (2017) have found psychological contract breach to be the mediator between workplace bullying and job as well as life satisfaction. Therefore, psychological contract violation as possible mediator for other workplace bullying exposure outcome variables (e.g., psychological well-being, work performance) remain untested. The same is true for basic need satisfaction/frustration as mediator. Basic need satisfaction and frustration have been found to mediate the relationship between workplace bullying and burnout (Trépanier et al., 2013), work engagement (Trépanier et al., 2013, 2015), turnover intentions (Trépanier et al., 2015), psychosomatic complaints, life satisfaction

(Trépanier et al., 2016), and organizational deviance (Lian, Ferris, & Brown, 2012b). However, basic need satisfaction/frustration could also be the mechanism between workplace bullying exposure and further outcomes (e.g., job satisfaction, work performance). Moreover, previous studies mostly tested basic need satisfaction as mediators between workplace bullying exposure and detrimental outcomes (Lian, Ferris, & Brown, 2012b; Trépanier et al., 2013, 2015). However, as Vansteenkiste and Ryan (2013) pointed out, need frustration may relate more robustly to malfunctioning than low need satisfaction. Therefore, different patterns may occur when one studies need frustration compared to need satisfaction. Moreover, these possible mechanisms between workplace bullying exposure and various outcomes have only been tested separately. This is problematic as both mediators have been suggested and theoretically reasoned to explain certain outcomes of workplace bullying exposure. Therefore, it cannot be ruled out that some detected mediation effects found in previous studies may be due to multicollinearity between the two phenomenon (i.e., between psychological contract violation and frustration of basic psychological needs) and, thus, may be only specious mediators (Fischer, Dietz, & Antonakis, 2017).

1.7. Open research questions and contributions of the present dissertation

At the end of the sections 1.4 to 1.6 a number of open questions and lack of research were identified. However, due to practical reasons and time and money restrictions, not all identified research questions and limitations of previous studies can be addressed in the present dissertation. As a literature review revealed that existing self-report workplace bullying exposure instruments exhibit some weaknesses, the aim of study 1 (Chapter 2) is to develop a new short scale, the Luxembourg Workplace Mobbing Scale (LWMS)[39] in three different language versions (i.e., Luxembourgish, French, German) that aims to (partial) overcome the identified weaknesses of previous scales. To make cross-cultural comparisons of workplace bullying exposure more feasible, a validated short scale that can be used in large-scale multi-topic surveys and that is measurement invariant across different language versions is urgently needed. Therefore, study 1 aims to test the newly developed LWMS's psychometric properties, its validity and the level of measurement invariance of the three language versions. Following recent recommendations of the operationalization of workplace bullying (Einarsen et al., 2009; Notelaers et al., 2018), the LWMS is operationalized as a unidimensional measure of workplace bullying exposure. Drawing on recent workplace bullying exposure studies, measures of

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[39] The terms "workplace bullying" and "workplace mobbing" are used interchangeably in the present thesis.

working conditions, job satisfaction and stress are used for initial validation tests. Furthermore, the identification of possible risk groups is a central aim of the workplace bullying research. However, the comparison of risk groups hinges on the assumption that manifest mean levels of workplace bullying exposure are meaningfully comparable across subgroups (i.e., measurement invariant). Critically, none of the existing workplace bullying exposure scales has been tested for measurement invariance across these groups, which is a prerequisite for such direct comparisons. Therefore, the aim of study 2 (Chapter 3) is to test the LWMS's factor structure and measurement invariance across possible risk groups of workplace bullying exposure (i.e., gender, age, and occupational groups). Moreover, study 2 aims to test whether gender, age, or occupation represent important risk factors for workplace bullying exposure in Luxembourg. Additionally, based on recent theories and findings on workplace bullying exposure study 2 aims to further elucidate the LWMS's nomological net with relevant psychological and physiological health measures as well as with important organizational criteria and with self-labeling victim status.

Regarding workplace risk factors, the literature review revealed a lack of research on boundary conditions and interaction effects and a lack of studies that include workplace bullying perpetration. As this thesis is mainly interested in organizational rather than personal risk factors, the focus of study 3 (Chapter 4) is on the main and interactive effects of two often debated risk factors, namely competition and passive avoidant leadership style. It has been argued that an organizational climate that is characterized by competition and envy increases the occurrence of workplace bullying (Salin, 2003c, 2015; Vartia, 1996). Employees may be tempted to gain a relative advantage over their colleagues by engaging in bullying behavior (Kohn, 1992; Ng, 2017, Salin, 2003c). This should be especially true, when relevant supervisors exhibit passive avoidant leadership styles. That is, when supervisors are physically in post but fail to carry out their duties (Hoel, Glasø, Hetland, Cooper, & Einarsen, 2010). If a supervisor is incapable of leading, decisions are inappropriately left to the work group and competition may lead to dysfunctional conflicts (i.e., relationship conflicts; Choi & Cho, 2011). Moreover, a passive avoidant leadership style lowers the perceived costs of engaging in bullying behavior, because the risk of being punished by the supervisor is reduced (Salin, 2003b). Therefore, the aim of study 3 (Chapter 4) is to test competition and passive avoidant leadership style as risk factors of workplace bullying exposure and perpetration assessed with two assessment method (behavioral experience and self-labeling method). Moreover, study 3 aims to test a moderation effect of passive avoidant leadership style on the association between competition and the different workplace bullying outcomes.

Regarding consequences of being a target of workplace bullying, the literature review revealed a lack of research on the mechanisms that link workplace bullying exposure with its detrimental outcomes. The review further revealed that psychological contract violation and frustration of basic psychological needs might be potential mediators of these associations. Workplace bullying exposure may violate the employee's expectation of a safe work environment and that he/she will be treated with respect and dignity. If the organization fails to react accordingly, this will result in feelings of betrayal in the target of bullying. Therefore, a perceived contract breach that fosters feelings of psychological contract violation may serve as the mechanism through which workplace bullying exposure leads to a negative evaluation of the employment relationship (Parzefall, & Salin, 2010) and the associated negative attitudes that come with this evaluation (e.g., lower work engagement and job satisfaction, higher turnover intentions, etc.). Moreover, based on a large number of empirical studies and inductive reasoning self-determination theory assumes that humans have three basic psychological needs, namely autonomy, competence, and relatedness, which have to be satisfied in order to achieve optimal functioning in individuals. Workplace bullying exposure may thwart employee's need for autonomy, competence and relatedness and organizations in which workplace bullying occurs can be seen as need thwarting environments. Therefore, frustration of basic needs may constitute the mechanism through which workplace bullying exposure leads to detrimental effects on the target's health, work-related attitudes, and behavior. Therefore, the aim of study 4 (Chapter 5) is to test two possible mechanisms (i.e., psychological contract violation and frustration of basic needs) that may link workplace bullying exposure with health, attitudinal and behavioral outcomes. Furthermore, their relative impact and importance on different outcomes will be highlighted. Table 1-1 summarize the research questions and the studies they will be addressed.

As the aim and the context of study 3 and 4 differed compared to study 1 and 2 (longer questionnaire space, central construct of the survey), another measure of workplace bullying exposure will be used (i.e., the short NAQ-R; e.g., Notelaers & Einarsen, 2008; Notelaers et al., 2018). Due to the larger number of items, the NAQ-R-9 is more reliable than the LWMS. However, in light of the recent debate on the usefulness of the duration criterion, no time limitations in the item set (such as 'in the last 6 months') will be included. Furthermore, the answer format will be changed and range from "never" to "always".

Table 1-1.   *Research questions addressed in the present dissertation.*

Thematic area	Specific research question	Addressed in study
Measurement issues	Do the items of the Luxembourg Workplace Mobbing Scale (LWMS) fit a one-factor model?	#1
	Is the LWMS measurement invariant across the different language versions (i.e., Luxembourgish, French, German)?	
	Does the LWMS show construct validity?	#1 / #2
	Is the LWMS related to negative working conditions, impaired health and negative attitudes and behavior?	#1 / #2
	Are the items of the LWMS measurement invariant across men and women, age groups, and occupational groups?	#2
	Do men and women differ regarding exposure to workplace bullying?	#2
	Are specific age cohorts at risk of workplace bullying exposure?	#2
	Are specific occupations at risk of workplace bullying exposure?	#2
Antecedents of workplace bullying	Is competition a risk factor of workplace bullying exposure and perpetration?	#3
	Is passive avoidant leadership style a risk factor of workplace bullying exposure and perpetration?	#3
	Is there an interaction effect for competition and passive avoidant leadership on workplace bullying exposure and perpetration?	#3
Consequences of workplace bullying	Do feelings of psychological contract violation mediate the effect of workplace bullying exposure on health, work-related attitudes and behavior?	#4
	Do basic need frustrations mediate the effect of workplace bullying exposure on health, work-related attitudes and behavior?	#4
	Do feelings of psychological contract violation and frustration of basic needs account for unique variation in the outcomes and act as unique mediators?	#4

1.8. Methods

To address the identified research questions in section 1.7 appropriate research designs have to be chosen. The research design fundamentally effects the different forms of validity and, thus, the ability to draw sound conclusions regarding the findings (Smith, 2014). Study 1 and 2 aim to test the psychometric properties (e.g., internal consistency, factors structure) of the newly developed LWMS, a workplace mobbing/bullying exposure survey instrument, and to establish its construct and criterion validity (Cronbach & Meehl, 1955; Borsboom, Mellenbergh, & van Heerden, 2004). Based on recent meta-analytical findings on workplace bullying exposure (e.g., Bowling & Beehr, 2006; Hershcovis & Barling, 2010a; Nielsen & Einarsen, 2012), several measures of target's perceived working conditions, health, attitude and behavior are used for the analyses of the LWMS's criterion validity. Many of the items and scales that are used as criterion variables for the LWMS have been constructed and tested within the "Quality of Work" (QoW) project, a long-term study that was implemented in 2013 by the

University of Luxembourg in collaboration with the Luxembourg Chamber of Labor and that is annually conduced (Steffgen & Kohl, 2013; Sischka & Steffgen, 2015, 2016, 2017). The QoW survey employs a computer-assisted telephone interview (CATI) with annually ~1.500 respondents. Study 1 use data from the QoW survey 2014 and study 2 data from the QoW survey 2016. Using CATI as data collection mode comes with some advantages and disadvantages compared to other survey modes (i.e., mail surveys, personal interviews, online surveys). With the Random-digital dialing (RDD) procedure, it is possible to draw a random sample of the general population using CATI. The RDD procedure allows a better access to certain populations, especially compared to personal interviews (Fowler, 2014). As CATI involves interviewer for data collection, the advantages and disadvantages of an interviewer in the data collection process also applies to the CATI procedure. One advantage of CATI is that compared to personal interviews, the CATI interviewer are less expensive because there are no travel expenses and the interview takes relatively less time (Saris & Gallhofer, 2014). This also results in shorter data collection periods (Fowler, 2014). The CATI interviewer can ask the target persons for cooperation and try to convince them to participate (Fowler, 2014). Moreover, the interviewer can help if respondents have problems to understand the questions. This might be especially important if the questionnaire topic is rather complex (Saris & Gallhofer, 2014). Compared to personal interviews, data collected via CATI might be less influenced through social desirability (Tourangeau, Rips, & Rasinski, 2000). A disadvantage of CATI is that persons without telephone or mobile phone cannot be contacted (Fowler, 2014). Furthermore, compared to data collection modes without interviewer, data from CATI might still be biased through social desirability (e.g., Kreuter, Presser, & Tourangeau, 2008). This effect is especially important for the assessment of workplace bullying/mobbing (Nielsen et al., 2011), and, thus, might influence response behavior regarding the items of the LWMS. Moreover, some criterion variables such as work performance might also be influenced through socially desirable responding (Griffith, Chmielowski, & Yoshita, 2007). Additionally, CATI can only include a small number of answer options, as respondents have to remember them while thinking of the correct answer (Tourangeau et al., 2000). Therefore, CATI can be cognitive and mental demanding that may have an impact on the reliability and validity of self-reports, especially when respondents with low cognitive abilities are interviewed (Lang, John, Lüdtke, Schupp, & Wagner, 2011; Saris & Gallhofer, 2014). Table 1-2 (p. 60) summarize the assessed constructs, and the used measures. Further details of the methods can be found in the respective chapters.

Contrary to the goals of study 1 and 2 that aim to develop and validate a new scale, study 3 and 4 aim to improve the theoretical knowledge of the workplace bullying phenomenon

to guide possible interventions. Therefore, a number of research designs may be used, e.g., experiments, observational studies or surveys (e.g., Eid, Gollwitzer, & Schmitt, 2017). The question of which research design is adequate and should be employed depends on the specific research questions and research purpose (Brewer & Crano, 2014).[40] Brewer and Crano (2014) group the different goals of empirical research in three categories: Demonstration, causation, and explanation. Research for demonstration purposes is conducted to empirically establish the existence and magnitude of a phenomenon or a relationship. Furthermore, research can be conducted to find cause-effect relationships. Ultimately, research is conducted to find explanation of causal links of variables. These different purposes mirror the maturity of the research field. If two variables have been empirically linked, then the next step would be to establish cause and effect. If a causal-link has been established, the next step would be the explanation of this link. Therefore, conditional effects such as mediation (*why*?) and moderation effects (*when*?) may be tested. Of course, this is an ideal typical differentiation and one study can have the aim to establish the causal-link and also find an explanation for this link. Nevertheless, the different research designs are not equally well suited to fulfill the different research purposes. This points to the question of validity and its different forms, namely internal validity, external validity, and construct validity (Campbell, 1957; Cook & Campbell, 1979; Coolican, 2017). *Internal validity* describes the degree of certainty that the variation of an outcome variable has been produced by changes of an independent variable and not by some other forces (Brewer & Crano, 2014). This means that the influence of third variables can be controlled (i.e., that third variables are held constant or are uncorrelated with variations in the independent variable; Coolican, 2017). To empirically test a specific theory, theoretical constructs must be "translated" from concepts to operations that can be measured. *Construct validity* refers to this translation process and describes the extent to which specific operations and measures represent the theoretical constructs (Brewer & Crano, 2014; Coolican, 2017). *External validity* refers to whether a finding is robust against variations of settings, persons and historical contexts and can be replicated in different settings with different persons in different times.[41] As no single piece of research can have high internal, external and construct validity all at the same time (Brewer & Crano, 2014), researcher should chose the research design that maximize the form of validity that is most important for their research purpose. For instance,

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[40] Other important considerations concern the specific characteristic of the research object, the data quality requirements, the type of researched behavior and experience the study is interested, and the time, financial and personal restriction/resources (Eid et al., 2017).
[41] Therefore, replications are an important yet often neglected part of science, as they can provide stability of our knowledge and, if the replication of previous findings fail, point to possible moderators of the hypothesized effect (Schmidt, 2009).

external validity is especially important, when the research purpose is essentially descriptive or when the goal of the research is the design or improvement of an intervention (Brewer & Crano, 2014). The aim of study 3 and 4 is the improvement of the theoretical knowledge of the workplace bullying phenomenon to guide possible interventions. Therefore, a survey field study was conducted as field studies generally have higher external validity (Brewer & Crano, 2014; Coolican, 2017). Study 3 and 4 use data collected via an online survey that was distributed on the Amazon Mechanical Turk platform (MTurk; Buhrmester, Kwang, & Gosling, 2011). Recently, MTurk has become popular among social scientists as a way to gather survey data, including but not limited to work psychology (e.g., van Prooijen & de Vries, 2016). Conducting an online survey has some advantages and disadvantages compared to other survey modes (i.e., mail surveys, personal and telephone interviews). Employing an online survey permits easy and cheap access to many participants and also hard-to-reach populations (Coulson, 2015; Fowler, 2014). Especially MTurk has been recommended to study hard-to-reach populations such as victims of workplace harassment (Smith, Sabat, Martinez, Weaver, & Xu, 2015). Moreover, online surveys allow for more flexibility and convenience on the side of the participants, as they do not have to travel to a specific venue but can respond from home and are able to take part in the study whenever they have time (Coulson, 2015). Another advantage of a self-administered data collection mode (i.e., online survey) compared to a mode where an interviewer is involved (i.e., personal and telephone interview) is that the social desirability effect is reduced (e.g., Saris & Gallhofer, 2014), thus, resulting in higher data quality. The two main disadvantages of an online survey design are the loss of control over the research environment because no researcher is physically present and the lack of representativeness (Coulson, 2015; Fowler, 2014). Not having a researcher in attendance can lead to several unintentional or deliberate deception by the respondents (e.g., completing the study more than once, discuss the possible answer with other persons; Coulson, 2015). Furthermore, if a third person (e.g., wife) is present, this might increase the social desirability effect. Moreover, it is also possible that respondents might be distracted because of environmental noise, or because they do other things simultaneously (e.g., watching TV) that may result in lower data quality. Indeed, research (e.g., Heerwegh & Loosveldt, 2008) found that compared to respondents in personal interviews online survey respondents are more likely to take cognitive shortcuts instead of going through the full cognitive process (i.e. interpret meaning of question, retrieve information from memory, integrate information into judgment, report judgment while taking response alternatives into account; Tourangeau et al., 2000) that is required to come up with a proper answer. Additionally, there also might be technical problems (e.g., internet connectivity

problems) that can disrupt data collection or may even lead to the partial or complete loss of data for some respondents. Furthermore, the layout between respondents might also vary depending on the type of computer, monitor, web browser that might also influence the response behavior (Coulson, 2015). However, recent technological and methodological advances might reduce some of these problems. For instance, the TurkPrime platform (Litman, Robinson, & Abberbock, 2017) that was used to manage data collection allows blocking participants with identical Internet Protocol addresses and, thus, screening out duplicate applicants. Moreover, TurkPrime allows verifying the participant's country, therefore, gives more control of the sample's composite. Moreover, including attention check items and data quality self-report questions enables researcher to screen for insufficient effort responding. This can increase data quality (DeSimone & Harms, 2017). The second disadvantage of an online survey design, the lack of representativeness arise because internet access as well as internet usage is not equally distributed across the general populations as well as many other often researched populations (e.g., employees; Ryan & Lewis, 2017). Therefore, employing an online survey usually results in a convenience sample.[42] Landers and Behrend (2015) stated that using a convenience sample instead of a probability sample from a population one wants to make inference-statistical conclusion introduce two challenges. These are classic range restriction and omitted variables. Regarding range restriction, the MTurk population seems sometimes a bit different from the general population but is not restricted in terms of type of industry or organization (Michel, O'Neill, Hartman, & Lorys, 2017), age, income, education, ethnic (Berinsky et al., 2012), and big five personality traits (Clifford et al., 2015) that may be potential confounders of workplace bullying exposure. This makes MTurk ideal for testing organizational theories expected to be broadly applicable across different organizational settings (Cheung, Burns, Sinclair, & Sliter, 2017) as it is the case for the present studies. Moreover, omitted variables also should not be a big problem as the MTurk sample represents a very heterogeneous population and the variables where the MTurk population seems to more strongly differ from the general U.S. population (e.g., internet usage) is not a concern in the occurrence of workplace bullying. To measure the respective constructs (e.g., competition, psychological contract violation), existing validated items and scales were used. They were chosen according to the reported psychometric properties in the literature. Table 1-2 summarize the methods, the assessed constructs, and the used measures. Further details of the methods can be found in the respective chapters.

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[42] Of course, this is not the case if a random sample of the interested population is drawn and target persons who do not have a computer or internet access get them from the researcher (Saris & Gallhofer, 2014). For instance, this design is realized in the GESIS panel (Bosnjak et al., 2018).

Table 1-2.   Methods, assessed constructs, and measures used in the present dissertation.

Method	Assessed construct	Measure	Assessed in study
Telephone survey	Workplace mobbing/bullying exposure	Luxembourg Workplace Mobbing Scale (LWMS)	#1 / #2
	Work satisfaction	Quality of Work scale	#1
	Respect	Quality of Work scale	#1
	Communication and feedback	Quality of Work scale	#1
	Cooperation	Quality of Work scale	#1
	Appraisal of work	Quality of Work scale	#1
	Mental strain at work	Quality of Work scale	#1
	Burnout	Quality of Work scale	#1
	Psychological stress	Quality of Work scale	#1
	Well-Being	WHO-5 Well-Being Index (World Health Organization, 1998)	#2
	Work-related burnout	Copenhagen Burnout Inventory ((Kristensen, Borritz, Villadsen, & Christensen, 2005)	#2
	Vigor	Utrecht Work Engagement Scale subscale vigor (Schaufeli, Bakker, & Salanova, 2006)	#2
	Subjective physiological health problems	Quality of Work scale	#2
	Sleeping hours	Quality of Work scale	#2
	Alcohol consumption	Quality of Work scale	#2
	Smoking	Quality of Work scale	#2
	Body mass index	Quality of Work scale	#2
	Suicidal thoughts	Quality of Work scale	#2
	Subjective work performance	Quality of Work scale	#2
	Turnover intention	Quality of Work scale	#2
	Absenteeism	Quality of Work scale	#2
	Mobbing self-labeling	Quality of Work scale	#2

Table 1-2.   *Continued.*

Method	Assessed construct	Measure	Assessed in study
Online survey	Competition	Coworker competition subscale (Fletcher & Nusbaum, 2010)	#3
	Passive avoidant leadership style	Passive leadership scale (Barling & Frone, 2016)	#3 / #4
	Workplace bullying exposure	Short-Negative Acts Questionnaire (S-NAQ; Notelaers & Einarsen, 2008) / Self-labeling	#3 / #4
	Workplace bullying perpetration	Short-Negative Acts Questionnaire in active form (S-NAQ; Notelaers & Einarsen, 2008) / Self-labeling	#3
	Self-labeling workplace bullying exposure	Self-labeling workplace bullying exposure (Nielsen et al., 2009)	#3
	Self-labeling workplace bullying perpetration	Self-labeling workplace bullying exposure in active form (Nielsen et al., 2009)	#3
	Psychological contract violation	Psychological contract violation scale (Robinson & Morrison, 2000)	#4
	Basic psychological need frustration	Psychological Needs Thwarting Scale (Bartholomew et al., 2011)	#4
	Well-Being	WHO-5 Well-Being Index (World Health Organization, 1998)	#4
	Job satisfaction	Michigan Organizational Assessment Questionnaire Job Satisfaction subscale (Cammann, Fichman, Jenkins, & Klesh, 1983)	#4
	Work-related burnout	Copenhagen Burnout Inventory ((Kristensen, Borritz, Villadsen, & Christensen, 2005)	#4
	Vigor	Utrecht Work Engagement Scale subscale vigor (Schaufeli, Bakker, & Salanova, 2006)	#4
	Work performance	Quality of Work scale	#4
	Workplace deviance	Organizational deviance scale (Bennet & Robinson (2000)	#4
	Turnover intentions	Turnover intention scale (Sjöberg & Sverke, 2000)	#4

1.9. References

AFS (1993:17). *Kränkande särbehandling [Victimization at work ordinance].* Stockholm: National Board of Occupational Safety and Health, 1994).

Agervold, M. (2007). Bullying at Work: A discussion of definitions and prevalence, based on an empirical study. *Scandinavian Journal of Psychology, 48,* 161-172. Doi: 10.1111/j.1467-9450.2007.00585.x

Agervold, M. (2009). The significance of organizational factors for the incidence of bullying. *Scandinavian Journal of Psychology, 50*, 267-276. Doi: 10.1111/j.1467-9450.2009.00710.x

Agervold, M., & Mikkelsen, E. G. (2004). Relationships between bullying, psychosocial work environment and individual stress reactions. *Work & Stress, 18*, 336-351. Doi: 10.1080/02678370412331319794

Anderson, C. A., Anderson, K. B., & Deuser, W. E. (1996). Examining an affective aggression framework weapon and temperature effects on aggressive thoughts, affect, and attitudes. *Personality and Social Psychology Bulletin*, *22*, 366-376. Doi: 10.1177/0146167296224004

Andersson, L. M., & Pearson, C. M. (1999). Tit for tat? The spiraling effect of incivility in the workplace. *Academy of Management Review, 24*, 452-471. Doi: 10.2307/259136

Aquino, K. (2000). Structural and individual determinants of workplace victimization: The effects of hierarchical status and conflict management style. *Journal of Management, 26*, 171-193. Doi: 10.1177/014920630002600201

Aquino, K., & Bradfield, M. (2000). Perceived victimization in the workplace: The role of situational and victim characteristics. *Organization Science, 11*, 525–537. Doi: 10.1287/orsc.11.5.525.15205

Aquino, K., & Douglas, S. (2003). Identity threat and antisocial behavior in organizations: The moderating effects of individual differences, aggressive modeling, and hierarchical status. *Organizational Behavior and Human Decision Processes*, *90*, 195-208. Doi: 10.1016/s0749-5978(02)00517-4

Aquino, K., Grover, S. L., Bradfield, M., & Allen, D. G. (1999). The effects of negative affectivity, hierarchical status, and self-determination on workplace victimization. *Academy of Management Journal, 42*, 260-272. Doi: 10.2307/256918

Aquino, K., & Lamertz, K. (2004). A relational model of workplace victimization: social roles and patterns of victimization in dyadic relationships. Journal of Applied Psychology, 89, 1023-1034. Doi: 10.1037/0021-9010.89.6.1023

Aquino, K., & Thau, S. (2009). Workplace victimization: Aggression from the target's perspective. *Annual Review of Psychology, 60*, 717-741. Doi: 10.1146/annurev.psych.60.110707.163703

Aquino, K., Tripp, T. M., & Bies, R. J. (2001). How employees respond to personal offense: the effects of blame attribution, victim status, and offender status on revenge and reconciliation in the workplace. *Journal of Applied Psychology, 86*, 52-59. Doi: 10.1037//0021-9010.86.1.52

Archer, D. (1999). Exploring "bullying" culture in the para-military organisation. *International Journal of Manpower, 20*, 94-105. Doi: 10.1108/01437729910268687

Ashforth, B. (1994). Petty tyranny in organizations. *Human Relations, 47*, 755-778. Doi: 10.1177/001872679404700701

Ashforth, B. E. (1997). Petty tyranny in organizations: A preliminary examination of antecedents and consequences. *Canadian Journal of Administrative Sciences/Revue*, *14*, 126-140. Doi: 10.1111/j.1936-4490.1997.tb00124.x

Astrauskaite, M., Notelaers, G., Medisauskaite, A., & Kern, R. M. (2015). Workplace harassment: Deterring role of transformational leadership and core job characteristics. *Scandinavian Journal of Management*, *31*, 121-135. Doi: 10.1016/j.scaman.2014.06.001

Ayoko, O. B. (2007). Communication openness, conflict events and reactions to conflict in culturally diverse workgroups. *Cross Cultural Management: An International Journal*, *14*, 105-124. Doi: 10.1108/13527600710745723

Ayoko, O. B., Callan, V. J., & Härtel, C. E. (2003). Workplace conflict, bullying, and counterproductive behaviors. *The International Journal of Organizational Analysis*, *11*, 283-301. Doi: 10.1108/eb028976

Baillien, E., Bollen, K., Euwema, M., & De Witte, H. (2014). Conflicts and conflict management styles as precursors of workplace bullying: A two-wave longitudinal study. *European Journal of Work and Organizational Psychology*, *23*, 511-524. Doi: 10.1080/1359432X.2012.752899

Baillien, E., Camps, J., Van den Broeck, A., Stouten, J., Godderis, L., Sercu, M., & De Witte, H. (2016). An eye for an eye will make the whole world blind: Conflict escalation into workplace bullying and the role of distributive conflict behavior. *Journal of Business Ethics, 137*, 415-429. Doi: 10.1007/s10551-015-2563-y

Baillien, E., De Cuyper, N., & De Witte, H. (2011). Job autonomy and workload as antecedents of workplace bullying: A two-wave test of Karasek's job demand control model for targets and perpetrators. *Journal of Occupational and Organizational Psychology, 84*, 191-208. Doi: 10.1348/096317910x508371

Baillien, E., & De Witte, H. (2009). The relationship between the occurrence of conflicts in the work unit, the conflict management styles in the work unit and workplace bullying. *Psychologica Belgica*, *49*, 207-226. Doi: 10.5334/pb-49-4-207

Baillien, E., Neyens, I., & De Witte, H. (2008). Organizational, team related and job related risk factors for workplace bullying, violence and sexual harassment in the workplace: A qualitative study. *International Journal of Organisational Behaviour*, *13*, 132-146.

Baillien, E., Neyens, I., De Witte, H., & De Cuyper, N. (2009). A qualitative study on the development of workplace bullying: Towards a three way model. *Journal of Community & Applied Social Psychology*, *19*, 1-16. Doi: 10.1002/casp.977

Baillien, E., Notelaers, G., De Witte, H., & Matthiesen, S. B. (2011). The relationship between the work unit's conflict management styles and bullying at work: Moderation by conflict frequency. *Economic and Industrial Democracy*, *32*, 401-419. Doi: 10.1177/0143831x10377929

Baillien, E., Rodriguez-Muñoz, A., Van den Broeck, A., & De Witte, H. (2011). Do demands and resources affect target's and perpetrators' reports of workplace bullying? A two-wave cross-lagged study. *Work & Stress*, *25*, 128-146. Doi: 10.1080/02678373.2011.591600

Baillien, E., Escartín, J., Gross, C., & Zapf, D. (2017). Towards a conceptual and empirical differentiation between workplace bullying and interpersonal conflict. *European Journal of Work and Organizational Psychology, 26*, 870-881. Doi: 10.1080/1359432x.2017.1385601

Bakker, A. B., & Demerouti, E. (2007). The job demands-resources model: State of the art. *Journal of Managerial Psychology*, *22*, 309-328. Doi: 10.1108/02683940710733115

Bal, P. M., Chiaburu, D. S., & Jansen, P. G. (2010). Psychological contract breach and work performance: is social exchange a buffer or an intensifier? *Journal of Managerial Psychology*, *25*, 252-273. Doi: 10.1108/02683941011023730

Bal, P. M., De Lange, A. H., Jansen, P. G., & Van Der Velde, M. E. (2008). Psychological contract breach and job attitudes: A meta-analysis of age as a moderator. *Journal of Vocational Behavior*, *72*, 143-158. Doi: 10.1016/j.jvb.2007.10.005

Balducci, C., Cecchin, M., & Fraccaroli, F. (2012). The impact of role stressors on workplace bullying in both victims and perpetrators, controlling for personal vulnerability factors: A longitudinal analysis. *Work & Stress*, *26*, 195-212. Doi: 10.1080/02678373.2012.714543

Balducci, C., Fraccaroli, F., & Schaufeli, W. B. (2011). Workplace bullying and its relation with work characteristics, personality, and post-traumatic stress symptoms: An integrated model. *Anxiety, Stress & Coping, 24*, 499-513. Doi: 10.1080/10615806.2011.555533

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.

Barling, J., Dupré, K. E., & Kelloway, E. K. (2009). Predicting workplace aggression and violence. *Annual Review of Psychology, 60*, 671-692. Doi: 10.1146/annurev.psych.60.110707.163629

Baron, R. A., & Neuman, J. H. (1996). Workplace violence and workplace aggression: Evidence on their relative frequency and potential causes. *Aggressive Behavior, 22*, 161-173. Doi: 10.1002/(sici)1098-2337(1996)22:3<161::aid-ab1>3.3.co;2-2

Bartlett, J. E., & Bartlett, M. E. (2011). Workplace bullying: An integrative literature review. *Advances in Developing Human Resources, 13*, 69-84. Doi: 10.3724/sp.j.1042.2013.02016

Bass, B.M., & Riggio, R.E. (2006). *Transformational leadership* (2nd ed.). Mahwah, NJ: Lawrence Erlbaum.

Baum, A., & Koman, S. (1976). Differential response to anticipated crowding: Psychological effects of social and spatial density. *Journal of Personality and Social Psychology, 34*, 526-536. Doi: 10.1037//0022-3514.34.3.526

Baughman, H. M., Dearing, S., Giammarco, E., & Vernon, P. A. (2012). Relationships between bullying behaviours and the Dark Triad: A study with adults. *Personality and Individual Differences, 52*, 571-575. Doi: 10.1016/j.paid.2011.11.020

Baumeister, R. F., Bushman, B. J., & Campbell, W. K. (2000). Self-esteem, narcissism, and aggression: Does violence result from low self-esteem or from threatened egotism? *Current Directions in Psychological Science, 9*, 26-29. Doi: 10.1111/1467-8721.00053

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117*, 497–529. Doi: 10.1037//0033-2909.117.3.497

Baumeister, R. F., Smart, L., & Boden, J. M. (1996). Relation of threatened egotism to violence and aggression: The dark side of high self-esteem. *Psychological Review, 103*, 5-33. Doi: 10.1037//0033-295x.103.1.5

Baumeister, R. F., Stillwell, A., & Wotman, S. R. (1990). Victim and perpetrator accounts of interpersonal conflict: Autobiographical narratives about anger. *Journal of Personality and Social Psychology, 59*, 994-1005. Doi: 10.1037/0022-3514.59.5.994

Becker, M. (1993). Mobbing ein neues Syndrom [Mobbing a new syndrome]. *Spektrum der Psychiatrie und Nervenheilkunde, 22*, 1-110.

Bennett, R. J., & Robinson, S. L. (2000). Development of a measure of workplace deviance. *Journal of Applied Psychology, 85*, 349-360. Doi: 10.1037//0021-9010.85.3.349

Berinsky, A. J., Huber, G. A., & Lenz, G. S. (2012). Evaluating online labor markets for experimental research: Amazon.com's Mechanical Turk. *Political Analysis, 20*, 351–368. Doi: 10.1093/pan/mpr057

Berkowitz, L. (1993). Pain and aggression: Some findings and implications. *Motivation and Emotion, 17*, 277-293. Doi: 10.1007/bf00992223

Berry, C. M., Ones, D. S., & Sackett, P. R. (2007). Interpersonal deviance, organizational deviance, and their common correlates: A review and meta-analysis. *Journal of Applied Psychology, 92*, 410-424. Doi: 10.1037/0021-9010.92.2.410

Berthelsen, M., Skogstad, A., Lau, B., & Einarsen, S. (2011). Do they stay or do they go? A longitudinal study of intentions to leave and exclusion from working life among targets of workplace bullying. *International Journal of Manpower*, *32*, 178-193. Doi: 10.1108/01437721111130198

Best, J. (1997). Victimization and the victim industry. *Society*, *34*, 9-17. Doi: 10.1007/bf02912204

Bies, R. J., Tripp, T. M., & Kramer, R. M. (1997). At the breaking point: Cognitive and social dynamics of revenge in organizations. In R. A. Giacalone & J. Greenberg (Eds.), *Antisocial behavior in organizations* (pp. 18-36). Thousand Oaks, CA: Sage.

Bilgel, N., Aytaç, S., & Bayram, N. (2006). Bullying in Turkish white-collar workers. *Occupational Medicine, 56*, 226-231. Doi: 10.1093/occmed/kqj041

Björkqvist, K., Österman, K., & Hjelt-Bäck, M. (1994). Aggression among university employees. *Aggressive behavior, 20*, 173-184. Doi: 10.1002/1098-2337(1994)20:3<173::aid-ab2480200304>3.0.co;2-d

Blau, P. M. (1964). *Exchange and power in social life*. New York: Wiley.

Bloch, C. (2012). How do perpetrators experience bullying at the workplace? *International Journal of Work Organisation and Emotion*, *5*, 159-177. Doi: 10.1504/ijwoe.2012.049519

Block, J. (1995). A contrarian view of the five-factor approach to personality description. *Psychological Bulletin, 117*, 187-215. Doi: 10.1037//0033-2909.117.2.187

Bloisi, W. & Hoel, H. (2008). Abusive work practices and bullying among chefs: A review of the literature. *International Journal of Hospitality Management, 27*, 649–656. Doi: 10.1016/j.ijhm.2007.09.001

Boddy, C. R. (2011). Corporate psychopaths, bullying and unfair supervision in the workplace. *Journal of Business Ethics, 100*, 367–379. Doi: 10.1057/9780230307551_3

Bonde, J. P., Gullander, M., Hansen, Å. M., Grynderup, M., Persson, R., Hogh, A., ... & Kolstad, H. A. (2016). Health correlates of workplace bullying: a 3-wave prospective follow-up study. Scandinavian Journal of Work, Environment & Health, 42, 17-25. Doi: 10.5271/sjweh.3539

Bordia, P., Restubog, S. L. D., & Tang, R. L. (2008). When employees strike back: investigating mediating mechanisms between psychological contract breach and workplace deviance. *Journal of Applied Psychology*, *93*, 1104-1117. Doi: 10.1037/0021-9010.93.5.1104

Borsboom, D., Mellenbergh, G. J., & van Heerden, J. (2004). The concept of validity. *Psychological Review, 111*, 1061-1071. Doi: 10.1037/0033-295X.111.4.1061

Bosnjak, M., Dannwolf, T., Enderle, T., Schaurer, I., Struminskaya, B., Tanner, A., & Weyandt, K. W. (2018). Establishing an open probability-based mixed-mode panel of the general population in Germany: The GESIS Panel. *Social Science Computer Review, 36*, 103-115. Doi: 10.1177/0894439317697949

Bowling, N. A., & Beehr, T. A. (2006). Workplace harassment from the victim's perspective: a theoretical model and meta-analysis. *Journal of Applied Psychology, 91*, 998-1012. Doi: 10.1037/0021-9010.91.5.998

Bowling, N. A., Beehr, T. A., Bennett, M. M., & Watson, C. P. (2010). Target personality and workplace victimization: A prospective analysis. *Work & Stress, 24*, 140-158. Doi: 10.1080/02678373.2010.489635

Bowling, N. A., Camus, K. A., & Blackmore, C. E. (2015). Conceptualizing and measuring workplace abuse: Implications for the study of abuse's predictors and consequences. In P. L. Perrewé, J. R. B. Halbesleben, & C. C. Rosen (Eds.). *Mistreatment in organizations* (pp. 225-263). Howard House, Wagon Lane, Bingley: Emerald Group Publishing Limited.

Bradfield, M., & Aquino, K. (1999). The effects of blame attributions and offender likableness on forgiveness and revenge in the workplace. *Journal of Management*, *25*, 607-631. Doi: 10.1016/s0149-2063(99)00018-5

Branch, S., Ramsay, S., & Barker, M. (2007). Managers in the firing line: Contributing factors to workplace bullying by staff–an interview study. *Journal of Management & Organization*, *13*, 264-281. Doi: 10.1017/s1833367200003734

Branch, S., S. Ramsey and M. Barker (2008). The bullied boss: a conceptual exploration of upwards bullying. In A. Glendon, B. Thomson and B. Myors (Eds.). *Advance in Organisational Psychology* (pp. 93–112). Bowen Hills, Queensland, Australia: Academic Press.

Brees, J., Mackey, J., Martinko, M., & Harvey, P. (2014). The mediating role of perceptions of abusive supervision in the relationship between personality and aggression. *Journal of Leadership & Organizational Studies, 21*, 403-413. Doi: 10.1177/1548051813505859

Brees, J., Martinko, M., & Harvey, P. (2016). Abusive supervision: subordinate personality or supervisor behavior? *Journal of Managerial Psychology, 31*, 405-419. Doi: 10.1108/jmp-04-2014-0129

Brewer, M. B., Crano, W. (2014). Research design and issues of validity. In H. T. Reis and C. M. Judd (Eds.), *Handbook of research methods in social and personality psychology* (2nd ed., pp. 11-26). Cambridge: University Press.

Brodsky, C. M. (1976). *The harassed worker*. Lexington, Mass: Lexington Books.

Buhrmester, M., Kwang, T., & Gosling, S. D. (2011). Amazon's Mechanical Turk: A new source of inexpensive, yet high-quality, data? *Perspectives on Psychological Science, 6*, 3–5. Doi: 10.1177/1745691610393980

Burton, J. P. (2015). The role of job embeddedness in the relationship between bullying and aggression. *European Journal of Work and Organizational Psychology*, *24*, 518-529. Doi: 10.1080/1359432x.2014.944169

Burton, J. P., & Hoobler, J. M. (2011). Aggressive reactions to abusive supervision: The role of interactional justice and narcissism. *Scandinavian Journal of Psychology*, *52*, 389-398. Doi: 10.1111/j.1467-9450.2011.00886.x

Campanini, P. M., Punzi, S., Costa, G., & Conway, P. M. (2008, June). *Workplace bullying in a large sample of Italian workers*. Paper presented at the 6th International Conference on Workplace Bullying, Montreal, Canada. Doi: 10.1111/j.1467-9450.2011.00886.x

Campbell, D. T. (1957). Factors relevant to the validity of experiments in social settings. *Psychological bulletin*, *54*, 297-312. Doi: 10.1037/h0040950

Chang, C. H. D., & Lyons, B. J. (2012). Not all aggressions are created equal: A multifoci approach to workplace aggression. *Journal of Occupational Health Psychology, 17*, 79-92. Doi: 10.1037/a0026073

Chen, F. F. (2008). What happens if we compare chopsticks with forks? The impact of making inappropriate comparisons in cross-cultural research. *Journal of Personality and Social Psychology, 95*, 1005-1018. Doi: 10.1037/a0013193

Cheung, J. H., Burns, D. K., Sinclair, R. R., & Sliter, M. (2017). Amazon Mechanical Turk in organizational psychology: An evaluation and practical recommendations. *Journal of Business and Psychology, 32*, 347–361. Doi: 10.1007/s10869-016-9458-5

Choi, K., & Cho, B. (2011). Competing hypotheses analyses of the associations between group task conflict and group relationship conflict. *Journal of Organizational Behavior, 32*, 1106–1126. Doi: 10.1002/job.733

Clark, L. A., & Watson, D. (1991). Tripartite model of anxiety and depression: psychometric evidence and taxonomic implications. *Journal of Abnormal Psychology, 100*, 316-336. Doi: 10.1037//0021-843x.100.3.316

Clifford, S., Jewell, R. M., & Waggoner, P. D. (2015). Are samples drawn from Mechanical Turk valid for research on political ideology? *Research & Politics, 2*. Advanced online publication. Doi: 10.1177/2053168015622072

Cobb, E. P. (2017). *Workplace Bullying and Harassment: New Developments in International Law*. London: Routledge.

Cohen-Charash, Y., & Spector, P. E. (2001). The role of justice in organizations: A meta-analysis. *Organizational Behavior and Human Decision Processes*, *86*, 278-321. Doi: 10.1006/obhd.2001.2958

Colquitt, J. A., Conlon, D. E., Wesson, M. J., Porter, C. O., & Ng, K. Y. (2001). Justice at the millennium: a meta-analytic review of 25 years of organizational justice research. *Journal of Applied Psychology*, *86*, 425-445. Doi: 10.1037/0021-9010.86.3.425

Conway, P. M., Clausen, T., Hansen, Å. M., & Hogh, A. (2016). Workplace bullying and sickness presenteeism: cross-sectional and prospective associations in a 2-year follow-up study. *International Archives of Occupational and Environmental Health*, *89*, 103-114. Doi: 10.1007/s00420-015-1055-9

Cook, T. D., & Campbell, D. T. (1979). *Quasi-experimentation: Design and analysis issues for field settings*. Chicago: Rand-McNally.

Coolican, H. (2017). *Research methods and statistics in psychology* (7th ed.). London: Psychology Press.

Cooper, C. L., Dewe, P. J., & O'Driscoll, M. P. (2001). *Organizational stress: A Review and critique of theory, research, and applications*. Thousand Oaks, CA: Sage.

Cortina, L. M. (2017). From victim precipitation to perpetrator predation: Toward a new paradigm for understanding workplace aggression. In N. A. Bowling & M. S. Hershcovis (Eds). *Research and theory on workplace aggression*, (pp. 121-135). Cambridge: University Press.

Cortina, L. M., & Magley, V. J. (2009). Patterns and profiles of response to incivility in the workplace. *Journal of Occupational Health Psychology, 14*, 272-288. Doi: 10.1037/a0014934

Cortina, L. M., Rabelo, V. C., & Holland, K. J. (2018). Beyond blaming the victim: Toward a more progressive understanding of workplace mistreatment. *Industrial and Organizational Psychology, 11*, 81-100. Doi: 10.1017/iop.2017.54

Coulson, N. (2015). *Online research methods for psychologists*. London: Palgrave Macmillan.

Coyle-Shapiro, J. A.-M., & Parzefall, M.-R. (2008). Psychological contracts. In C. L. Cooper and J. Barling (Eds.), *The SAGE handbook of organizational behavior* (pp. 17-34). London, UK: SAGE Publications.

Coyle-Shapiro, J. A., & Shore, L. M. (2007). The employee–organization relationship: Where do we go from here? *Human Resource Management Review*, *17*, 166-179. Doi: 10.1016/j.hrmr.2007.03.008

Coyne, I., Seigne, E., & Randall, P. (2000). Predicting workplace victim status from personality. *European Journal of Work and Organizational Psychology, 9*, 335-349. Doi: 10.1080/135943200417957

Coyne, I., Smith-Lee Chong, P., Seigne, E., & Randall, P. (2003). Self and peer nominations of bullying: An analysis of incident rates, individual differences, and perceptions of the working environment. *European Journal of Work and Organizational Psychology*, 12, 209-228. Doi: 10.1080/13594320344000101

Crawshaw, L. (2009). Workplace bullying? Mobbing? Harassment? Distraction by a thousand definitions. *Consulting Psychology Journal: Practice and Research, 61*, 263-267. Doi: 10.1037/a0016590

Crocker, J., & Park, L. E. (2004). The costly pursuit of self-esteem. *Psychological Bulletin, 130*, 392-414. Doi: 10.1037/0033-2909.130.3.392

Cronbach, L. J., & Meehl, P. E. (1955). Construct validity in psychological tests. *Psychological Bulletin*, *52*, 281-302.

Cropanzano, R., & Mitchell, M. S. (2005). Social exchange theory: An interdisciplinary review. *Journal of Management, 31*, 874-900. Doi: 10.1177/0149206305279602

Cropanzano, R., & Mitchell, M. S. (2013). Social exchange theory. In E. H. Kessler (Ed.), *Encyclopedia of Management Theory*, Vol, 2 (pp. 722-727). London, UK: Sage Publications.

Cullinane, N., & Dundon, T. (2006). The psychological contract: A critical review. *International Journal of Management Reviews*, *8*, 113-129. Doi: 10.1111/j.1468-2370.2006.00123.x

D'Cruz, P., & Noronha, E. (2010). The exit coping response to workplace bullying: The contribution of inclusivist and exclusivist HRM strategies. *Employee Relations, 32*, 102-120. Doi: 10.1108/01425451011010078

Da Gloria, J., & Da Ridder, R. (1977). Aggression in dyadic interaction. *European Journal of Social Psychology, 7*, 189-219. Doi: 10.1002/ejsp.2420070207

Deci, E. L., Olafsen, A. H., & Ryan, R. M. (2017). Self-determination theory in work organizations: The state of a science. *Annual Review of Organizational Psychology and Organizational Behavior, 4*, 19–43. Doi: 10.1146/annurev-orgpsych-032516-113108

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*, 227–268. Doi: 10.1207/s15327965pli1104_01

De Cuyper, N., Baillien, E., & De Witte, H. (2009). Job insecurity, perceived employability and targets' and perpetrators' experiences of workplace bullying. *Work & Stress, 23*, 206-224. Doi: 10.1080/02678370903257578

Denson, T. F., DeWall, C. N., & Finkel, E. J. (2012). Self-control and aggression. *Current Directions in Psychological Science, 21*, 20-25. Doi: 10.1177/0963721411429451

DeSimone, J. A., & Harms, P. D. (2017). Dirty Data: The Effects of Screening Respondents Who Provide Low-Quality Data in Survey Research. *Journal of Business and Psychology*. Advanced online publication. Doi: 10.1007/s10869-017-9514-9

Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin, 125*, 276-302. Doi: 10.1037//0033-2909.125.2.276

Di Rosa, A. E., Gangemi, S., Cristani, M., Fenga, C., Saitta, S., Abenavoli, E., ... & Abbate, S. (2009). Serum levels of carbonylated and nitrosylated proteins in mobbing victims with workplace adjustment disorders. *Biological Psychology, 82*, 308-311. Doi: 10.1016/j.biopsycho.2009.09.005

Dollard, M. F., Dormann, C., Tuckey, M. R., & Escartín, J. (2017). Psychosocial safety climate (PSC) and enacted PSC for workplace bullying and psychological health problem

reduction. *European Journal of Work and Organizational Psychology*, *26*, 844-857. Doi: 10.1080/1359432X.2017.1380626

Donnellan, M. B., Trzesniewski, K. H., Robins, R. W., Moffitt, T. E., & Caspi, A. (2005). Low self-esteem is related to aggression, antisocial behavior, and delinquency. *Psychological Science, 16*, 328-335. Doi: 10.1111/j.0956-7976.2005.01535.x

Donnerstein, E., & Wilson, D. W. (1976). Effects of noise and perceived control on ongoing and subsequent aggressive behavior. *Journal of Personality and Social Psychology, 34*, 774-781. Doi: 10.1037//0022-3514.34.5.774

Douglas, S. C., & Martinko, M. J. (2001). Exploring the role of individual differences in the prediction of workplace aggression. *Journal of Applied Psychology, 86*, 547-559. Doi: 10.1037//0021-9010.86.4.547

Duffy, M. K., Ganster, D. C., & Pagon, M. (2002). Social undermining in the workplace. *Academy of Management Journal, 45*, 331-351. Doi: 10.2307/3069350

Eid, M., Gollwitzer, M., & Schmitt, M. (2017). *Statistik und Forschungsmethoden* (5th ed). Weinheim, Basel: Beltz Juventa.

Einarsdóttir, A., Hoel, H., & Lewis, D. (2015). 'It's nothing personal': Anti-homosexuality in the British workplace. *Sociology, 49*, 1183–1199. Doi: 10.1177/0038038515582160

Einarsen, S. (1999). The nature and causes of bullying at work. *International Journal of Manpower, 20*, 16-27. Doi: 10.1108/01437729910268588

Einarsen, S. (2000). Harassment and bullying at work: A review of the Scandinavian approach. *Aggression and Violent Behavior, 5*, 379-401.

Einarsen, S., Hoel, H., & Notelaers, G. (2009): Measuring exposure to bullying and harassment at work: Validity, factor structure and psychometric properties of the Negative Acts Questionnaire-Revised. *Work & Stress, 23,* 24-44. Doi: 10.1080/02678370902815673

Einarsen, S., Hoel, H., & Cooper, C. (Eds.). (2003). *Bullying and emotional abuse in the workplace: International perspectives in research and practice*. London: Taylor & Francis.

Einarsen, H. Hoel, D. Zapf, & C. L. Cooper (Eds.), *Bullying and harassment in the workplace. Developments in theory, research, and practice* (2nd ed). Boca Raton, FL: CRC Press.

Einarsen, S., Hoel, H., Zapf, D. & Cooper, C. L. (2011). The concept of bullying and harassment at work: The European tradition. In S. Einarsen, H. Hoel, D. Zapf, & C. L. Cooper (Eds.), *Bullying and harassment in the workplace. Developments in theory, research, and practice* (2nd ed., pp. 3–39). Boca Raton, FL: CRC Press.

Einarsen, S., & Raknes, B.I. (1991). *Mobbing i arbeidslivet. En undersokelse av forekomst ol helsemessige av mobbing ptl norske arbeid.splasser [Mobbing in worklife: A study on prevalence and health effects of mobbing in Norwegian workplaces].* Bergen: Forksningssenter for atbeidsmiljo (FAHS).

Einarsen, S., & Raknes, B. I. (1997). Harassment in the workplace and the victimization of men. *Violence and Victims, 12*, 247-263.

Einarsen, S., Raknes, B. R. I., & Matthiesen, S. B. (1994). Bullying and harassment at work and their relationships to work environment quality: An exploratory study. *European Journal of Work and Organizational Psychology, 4*, 381-401. Doi: 10.1080/13594329408410497

Einarsen, S., Raknes, B. I., Matthiesen, S. B., & Hellesoy O. H. (1996). Bullying at work and its relationships with health complaints. Moderating effects of social support and personality. *Nordisk Psykologi, 48*, 116–137.

Einarsen, S., & Skogstad, A. (1996). Bullying at work: Epidemiological findings in public and private organizations. *European Journal of Work and Organizational Psychology, 5*, 185-201. Doi: 10.1080/13594329608414854

Einarsen, S., Skogstad, A., & Glasø, L. (2013). When leaders are bullies: Concepts, antecedents, and consequences. In H. S. Leonard, R. Lewis, A. M. Freedman, & J. Passmore (Eds.), *The Wiley-Blackwell handbook of the psychology of leadership, change, and organizational development* (pp. 129-153). Oxford, UK: John Wiley & Sons.

Einarsen, S., Skogstad, A., Rørvik, E., Lande, Å. B., & Nielsen, M. B. (2016). Climate for conflict management, exposure to workplace bullying and work engagement: a moderated mediation analysis. *The International Journal of Human Resource Management*. Advanced online publication. Doi: 10.1080/09585192.2016.1164216

Emerson, R. M. (1976). Social exchange theory. *Annual Review of Sociology, 2*, 335-362. Doi: 10.1146/annurev.so.02.080176.002003

Eriksen, W. & Einarsen, S. (2004). Gender minority as a risk factor of exposure to bullying at work: The case of male assistant nurses. *European Journal of Work and Organizational Psychology, 13*, 473–492. Doi: 10.1080/13594320444000173

Escartín, J., Rodriguez-Carballeira, A., Porrúa, C., & Martín-Peña, J. (2008). Estudio y análisis sobre cómo perciben el mobbing los trabajadores [Study and analysis of the way mobbing is perceived by workers] *Revista de Psicología Social, 23*, 203-211.

Eschleman, K. J., Bowling, N. A., Michel, J. S., & Burns, G. N. (2014). Perceived intent of supervisor as a moderator of the relationships between abusive supervision and counterproductive work behaviours. *Work & Stress, 28*, 362-375. Doi: 10.1080/02678373.2014.961183

Eurofund (Ed.) (2015a). *6th European Working Conditions Survey – Technical report*. Working Paper. Retrieved from http://www.eurofound.europa.eu/sites/default/files/ef_survey/field_ef_documents/6th_ewcs_-_technical_report.pdf

Eurofund (Ed.) (2015b). *6th European Working Conditions Survey – Weighting report*. Working Paper. Retrieved from https://www.eurofound.europa.eu/sites/default/files/ef_survey/field_ef_documents/6th_ewcs_2015_-_weighting_report.pdf

European Foundation for the Improvement of Living and Working Conditions (Ed.). (2017). *European Working Conditions Survey, 2015*. [data collection]. *3rd Edition.* UK Data Service. SN: 8098, http://doi.org/10.5255/UKDA-SN-8098-3

Farh, C. I., & Chen, Z. (2014). Beyond the individual victim: Multilevel consequences of abusive supervision in teams. *Journal of Applied Psychology*, *99*, 1074-1095. Doi: 10.1037/a0037636

Felson, R. B. (1982). Impression management and the escalation of aggression and violence. *Social Psychology Quarterly, 45*, 245-254. Doi: 10.2307/3033920

Felson, R. B. (1992). "Kick'em when they're down": Explanations of the relationship between stress and interpersonal aggression and violence. *Sociological Quarterly, 33*, 1-16. Doi: 10.1111/j.1533-8525.1992.tb00360.x

Felson, R. B., & Tedeschi, J. T. (Eds). (1993). *Aggression and violence: Social interactionist perspectives*. Washington, DC: American Psychological Association.

Ferris, D. L., Brown, D. J., Berry, J. W., & Lian, H. (2008). The development and validation of the Workplace Ostracism Scale. *Journal of Applied Psychology*, *93*, 1348-1366. Doi: 10.1037/a0012743

Ferris, D. L., Rosen, C. R., Johnson, R. E., Brown, D. J., Risavy, S. D., & Heller, D. (2011). Approach or avoidance (or both?): Integrating core self-evaluations within an approach/avoidance framework. *Personnel Psychology, 64*, 137-161. Doi: 10.1111/j.1744-6570.2010.01204.x

Ferris, D. L., Spence, J. R., Brown, D. J., & Heller, D. (2012). Interpersonal injustice and workplace deviance: The role of esteem threat. *Journal of Management, 38*, 1788–1811. Doi: 10.1177/0149206310372259

Ferris, G. R., Zinko, R., Brouer, R. L., Buckley, M. R., & Harvey, M. G. (2007). Strategic bullying as a supplementary, balanced perspective on destructive leadership. *The Leadership Quarterly, 18*, 195-206. Doi: 10.1016/j.leaqua.2007.03.004

Fevre, R., Robinson, A., Lewis, D., & Jones, T. (2013). The ill-treatment of employees with disabilities in British workplaces. *Work, Employment and Society, 27*, 288–307. Doi: 10.1177/0950017012460311.

Finne, L. B., Knardahl, S., & Lau, B. (2011). Workplace bullying and mental distress—a prospective study of Norwegian employees. *Scandinavian Journal of Work, Environment & Health, 37*, 276–287. Doi:10.5271/sjweh.3156

Fischer, T., Dietz, J., & Antonakis, J. (2017). Leadership process models: A review and synthesis. *Journal of Management*, *43*, 1726-1753. Doi: 10.1177/0149206316682830

Folger, R. G., & Cropanzano, R. (1998). *Organizational justice and human resource management*. Thousand Oaks, CA: Sage.

Folger, R., & Cropanzano, R. (2001). Fairness theory: Justice as accountability. In J. Greenberg and R. Cropanzano (Eds.), *Advances in organizational justice* (pp. 1-55). Palo Alto, CA: Stanford Press.

Ford, M. T., Cerasoli, C. P., Higgins, J. A., & Decesare, A. L. (2011). Relationships between psychological, physical, and behavioural health and work performance: A review and meta-analysis. *Work & Stress, 25*, 185-204. Doi: 10.1080/02678373.2011.609035

Fowler, F. J. (2014). *Survey research methods*. Los Angeles: Sage Publications.

Fox, S., & Spector, P. E. (1999). A model of work frustration-aggression. *Journal of Organizational Behavior, 20*, 915-931. Doi: 10.1002/(sici)1099-1379(199911)20:6<915::aid-job918>3.3.co;2-y

Fox, S., Spector, P. E., & Miles, D. (2001). Counterproductive work behavior (CWB) in response to job stressors and organizational justice: Some mediator and moderator tests for autonomy and emotions. *Journal of Vocational Behavior*, *59*, 291-309. Doi: 10.1006/jvbe.2001.1803

Fox, S., & Stallworth, L. E. (2005). Racial/ethnic bullying: Exploring links between bullying and racism in the US workplace. Jou*rnal of Vocational Behavior, 66*, 438-456. Doi: 10.1016/j.jvb.2004.01.002

Fox, S., & Stallworth, L. E. (2009). Building a framework for two internal organizational approaches to resolving and preventing workplace bullying: Alternative dispute resolution and training. *Consulting Psychology Journal: Practice and Research, 61*, 220-241. Doi: 10.1037/a0016637

Francioli, L., Høgh, A., Conway, P. M., Costa, G., Karasek, R., & Hansen, Å. M. (2016). Do personal dispositions affect the relationship between psychosocial working conditions and workplace bullying? *Ethics & Behavior, 26*, 451-469. Doi: 10.1080/10508422.2015.1043367

Frazier, P. A., Tix, A. P., & Barron, K. E. (2004). Testing moderator and mediator effects in counseling psychology research. Journal of counseling psychology, 51, 115-134. Doi: 10.1037/0022-0167.51.1.115

Geen, R. G., & McCown, E. J. (1984). Effects of noise and attack on aggression and physiological arousal. *Motivation & Emotion, 8*, 231-241. Doi: 10.1007/bf00991891

Giang, M. T., & Graham, S. (2008). Using latent class analysis to identify aggressors and victims of peer harassment. *Aggressive Behavior, 34*, 203-213. Doi: 10.1002/ab.20233

Giorgi, G. (2010). Workplace bullying partially mediates the climate-health relationship. *Journal of Managerial Psychology*, *25*, 727-740. Doi: 10.1108/02683941011075274

Giorgi, G., Leon-Perez, J. M., & Arenas, A. (2015). Are bullying behaviors tolerated in some cultures? Evidence for a curvilinear relationship between workplace bullying and job satisfaction among Italian workers. *Journal of Business Ethics*, *131*, 227-237. Doi: 10.1007/s10551-014-2266-9

Glambek, M., Einarsen, S., Hoel, H. (2018). *The sources, prevalence, and consequences of bullying in the workplace*. Manuscript submitted for publication.

Glambek, M., Matthiesen, S. B., Hetland, J., & Einarsen, S. (2014). Workplace bullying as an antecedent to job insecurity and intention to leave: A 6-month prospective study. *Human Resource Management Journal, 24*, 255–268. Doi: 10.1111/1748-8583.12035

Glambek, M., Skogstad, A., & Einarsen, S. (2015). Take it or leave: A five-year prospective study of workplace bullying and indicators of expulsion in working life. *Industrial Health, 53*, 160–170. Doi: 10.2486/indhealth.2014-0195

Glambek, M., Skogstad, A., & Einarsen, S. (2016). Do the bullies survive? A five-year, three-wave prospective study of indicators of expulsion in working life among perpetrators of workplace bullying. *Industrial Health, 54*, 68–73. Doi: 10.2486/indhealth.2015-0075

Glasl, F. (1994). *Konfliktmanagement. Ein Handbuch für Führungskräfte und Berater* [Conflict management: A handbook for managers and consultants]. 4th ed. Bern, Switzerland: Haupt.

Glasø, L., Matthiesen, S. B., Nielsen, M. B., & Einarsen, S. (2007). Do targets of workplace bullying portray a general victim personality profile? *Scandinavian Journal of Psychology, 48*, 313-319. Doi: 10.1111/j.1467-9450.2007.00554.x

Glasø, L., Nielsen, M. B., & Einarsen, S. (2009). Interpersonal problems among perpetrators and targets of workplace bullying. *Journal of Applied Social Psychology, 39*, 1316-1333. Doi: 10.1111/j.1559-1816.2009.00483.x

Glomb, T. M. (2002). Workplace anger and aggression: informing conceptual models with data from specific encounters. *Journal of Occupational Health Psychology*, *7*, 20-36. Doi: 10.1037//1076-8998.7.1.20

Glomb, T. M., & Liao, H. (2003). Interpersonal aggression in work groups: Social influence, reciprocal, and individual effects. *Academy of Management Journal, 46*, 486-496. Doi: 10.2307/30040640

Goodboy, A. K., Martin, M. M., & Bolkan, S. (2017). Workplace bullying and work engagement: a self-determination model. *Journal of interpersonal violence*. Advanced online publication. Doi: 10.1177/0886260517717492.

Gouldner, A. W. (1960). The norm of reciprocity: A preliminary statement. *American Sociological Review, 25*, 161-178. Doi: 10.2307/2092623

Griffin, R. W., & Lopez, Y. P. (2005). "Bad behavior" in organizations: A review and typology for future research. *Journal of Management, 31*, 988-1005. Doi: 10.1177/0149206305279942

Griffith, R. L., Chmielowski, T., & Yoshita, Y. (2007). Do applicants fake? An examination of the frequency of applicant faking behavior. *Personnel Review*, *36*, 341-355. Doi: 10.1108/00483480710731310

Grynderup, M. B., Nabe-Nielsen, K., Lange, T., Conway, P. M., Bonde, J. P., Francioli, L., ... & Hgh, A. (2016). Does perceived stress mediate the association between workplace bullying and long-term sickness absence? *Journal of Occupational and Environmental Medicine*, *58*, 226-230. Doi: 10.1097/JOM.0000000000000750

Grynderup, M. B., Nabe-Nielsen, K., Lange, T., Conway, P. M., Bonde, J. P., Garde, A. H., ... & Vammen, M. A. (2017). The associations between workplace bullying, salivary cortisol, and long-term sickness absence: a longitudinal study. *BMC Public Health, 17*, 710. Doi: 10.1186/s12889-017-4716-7

Guest, D. E. (1998). Is the psychological contract worth taking seriously? *Journal of Organizational Behavior, 19*, 649-664. Doi: 10.1002/(sici)1099-1379(1998)19:1+<649::aid-job970>3.0.co;2-t

Guest, D. E., & Conway, N. (2009). Health and well-being: The role of the psychological contract. In C. L. Cooper J. C. Quick and M. J. Schabracq, (Eds.), *International handbook of work and health psychology. 3. Ed.* (pp. 9-23). Hoboken, NJ: John Wiley & Sons.

Hannah, S. T., Avolio, B. J., & Walumbwa, F. O. (2011). Relationships between authentic leadership, moral courage, and ethical and pro-social behaviors. *Business Ethics Quarterly, 21*, 555-578. Doi: 10.5840/beq201121436

Hansen, Å. M., Grynderup, M. B., Bonde, J. P., Conway, P. M., Garde, A. H., Kaerlev, L., ... & Willert, M. (2018). Does Workplace Bullying Affect Long-Term Sickness Absence Among Coworkers? *Journal of Occupational and Environmental Medicine*, *60*, 132-137. Doi: 10.1097/JOM.0000000000001209

Hansen, Å. M., Hogh, A., Garde, A. H., & Persson, R. (2014). Workplace bullying and sleep difficulties: a 2-year follow-up study. *International Archives of Occupational and Environmental Health, 87*, 285-294. Doi: 10.1007/s00420-013-0860-2

Hansen, Å. M., Hogh, A., & Persson, R. (2011). Frequency of bullying at work, physiological response, and mental health. *Journal of Psychosomatic Research, 70*, 19-27. Doi: 10.1016/j.jpsychores.2010.05.010

Hansen, Å. M., Hogh, A., Persson, R., Karlson, B., Garde, A. H., & Ørbaek, P. (2006). Bullying at work, health outcomes, and physiological stress response. *Journal of Psychosomatic Research, 60*, 63-72. Doi: 10.1016/j.jpsychores.2005.06.078

Harrington, S., Warren, S., & Rayner, C. (2015). Human resource management practitioners' responses to workplace bullying: Cycles of symbolic violence. *Organization, 22*, 368–389. Doi: 10.1177/1350508413516175

Harris, K. J., Harvey, P., & Kacmar, K. M. (2011). Abusive supervisory reactions to coworker relationship conflict. *The Leadership Quarterly*, *22*, 1010-1023. Doi: 10.1016/j.leaqua.2011.07.020

Hauge, L. J., Einarsen, S., Knardahl, S., Lau, B., Notelaers, G., & Skogstad, A. (2011). Leadership and role stressors as departmental level predictors of workplace bullying. *International Journal of Stress Management*, *18*, 305-323. Doi: 10.1037/a0025396

Hauge, L. J., Skogstad, A., & Einarsen, S. (2007). Relationships between stressful work environments and bullying: Results of a large representative study. *Work & Stress*, *21*, 220-242. Doi: 10.1080/02678370701705810

Hauge, L. J., Skogstad, A., & Einarsen, S. (2009). Individual and situational predictors of workplace bullying: Why do perpetrators engage in the bullying of others? *Work & Stress, 23*, 349-358. Doi: 10.1080/02678370903395568

Hauge, L. J., Skogstad, A., & Einarsen, S. (2010). The relative impact of workplace bullying as a social stressor at work. *Scandinavian Journal of Psychology, 51*, 426-433. Doi: 10.1111/j.1467-9450.2010.00813.x

Hauge, L. J., Skogstad, A., & Einarsen, S. (2011). Role stressors and exposure to workplace bullying: Causes or consequences of what and why? *European Journal of Work and Organizational Psychology, 20*, 610-630. Doi: 10.1080/1359432X.2010.482264

Heacox, N. J., & Sorenson, R. C. (2007). Organizational frustration and aggressive behaviors. *Journal of Emotional Abuse*, *4*, 95-118. Doi: 10.1300/j135v04n03_07

Heames, J., & Harvey, M. (2006). Workplace bullying: A cross-level assessment. *Management Decision, 44*, 1214-1230. Doi: 10.1108/00251740610707695

Heerwegh, D., & Loosveldt, G. (2008). Face-to-face versus web surveying in a high-internet-coverage population: Differences in response quality. *Public Opinion Quarterly*, *72*, 836-846. Doi: 10.1093/poq/nfn045

Heinemann, O. (1972). *Mobbning – gruppvåld bland barn och vuxna [Mobbing – group violence by children and adults]*. Stockholm: Natur & Kultur.

Hershcovis, M. S. (2011). "Incivility, social undermining, bullying… oh my!": A call to reconcile constructs within workplace aggression research. *Journal of Organizational Behavior, 32*, 499-519. Doi: 10.1002/job.689

Hershcovis, M. S., & Barling, J. (2010a). Towards a multi-foci approach to workplace aggression: A meta-analytic review of outcomes from different perpetrators. *Journal of Organizational Behavior, 31,* 24-44. Doi: 10.1002/job.621

Hershcovis, M. S., & Barling, J. (2010b). Comparing victim attributions and outcomes for workplace aggression and sexual harassment. Journal of Applied Psychology, 95, 874-888. Doi: 10.1037/a0020070

Hershcovis, M. S., & Reich, T. C. (2013). Integrating workplace aggression research: Relational, contextual, and method considerations. *Journal of Organizational Behavior, 34*, 26-42. Doi: 10.1002/job.1886

Hershcovis, M. S., Reich, T. C., Parker, S. K., & Bozeman, J. (2012). The relationship between workplace aggression and target deviant behaviour: The moderating roles of power and task interdependence. *Work & Stress*, *26*, 1-20. Doi: 10.1080/02678373.2012.660770

Hershcovis, M. S., Turner, N., Barling, J., Arnold, K. A., Dupré, K. E., Inness, M., LeBlanc, M. M., & Sivanathan, N. (2007). Predicting workplace aggression: A meta-analysis. *Journal of Applied Psychology, 92*, 228-238. Doi: 10.1037/0021-9010.92.1.228

Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American psychologist*, *44*, 513-524. Doi: 10.1037//0003-066x.44.3.513

Hoel, H., & Cooper, C. L. (2000). *Destructive conflict and bullying at work*. Manchester: University of Manchester Institute of Science and Psychology (UMIST).

Hoel, H., Cooper, C. L., & Faragher, B. (2001). The experience of bullying in Great Britain: The impact of organizational status. *European Journal of Work and Organizational Psychology, 10*, 443-465. Doi: 10.1080/13594320143000780

Hoel, H., & Einarsen, S. (2010). Shortcomings of antibullying regulations: The case of Sweden. *European Journal of Work and Organizational Psychology, 19*, 30-50. Doi: 10.1080/13594320802643665

Hoel, H., Giga, S. I., & Davidson, M. J. (2007). Expectations and realities of student nurses' experiences of negative behaviour and bullying in clinical placement and the influences of socialization processes. *Health Services Management Research*, *20*, 270-278. Doi: 10.1258/095148407782219049

Hoel, H., Glasø, L., Hetland, J., Cooper, C. L., & Einarsen, S. (2010). Leadership styles as predictors of self-reported and observed workplace bullying. *British Journal of Management*, *21*, 453-468. Doi: 10.1111/j.1467-8551.2009.00664.x

Hoel, H., Rayner, C., & Cooper, C. L. (1999). Workplace bullying. In C. L. Cooper, & I. T. Robertson (Eds.), *International Review of industrial and organizational psychology, Vol. 14* (pp. 195-230). Chichester, UK: Wiley.

Hoel, H., Sheehan, M. J., Cooper, C. L., & Einarsen, S. (2011). Organisational effects of workplace bullying. In S. Einarsen, H. Hoel, D. Zapf, & C. L. Cooper (Eds.), *Bullying and harassment in the workplace. Developments in theory, research, and practice* (2nd ed., pp. 129–147). Boca Raton, FL: CRC Press.

Hofstede, G. (1998). *Masculinity and femininity: The taboo dimension of national cultures*. Thousand Oaks, CA: Sage.

Hofstede, G. (2001). *Culture's consequences* (2nd ed.). Thousand Oaks, CA: Sage.

Hogh, A., Conway, P. M., Grynderup, M. B., Gullander, M., Willert, M. V., Mikkelsen, E. G., ... & Rugulies, R. (2016). Negative acts at work as potential bullying behavior and depression: examining the direction of the association in a 2-year follow-up study. *Journal of Occupational and Environmental Medicine, 58*, e72-e79. Doi: 10.1097/jom.0000000000000622

Hogh, A., Hoel, H., & Carneiro, I. G. (2011). Bullying and employee turnover among healthcare workers: a three-wave prospective study. *Journal of Nursing Management*, *19*, 742-751. Doi: 10.1111/j.1365-2834.2011.01264.x

Hogh, A., Conway, P. M., & Mikkelsen, E. G. (2017). Prevalence and risk factors for workplace bullying. In P. Sturmey (Ed.), *The Wiley Handbook of Violence and Aggression*. Hoboken, NJ: Wiley-Blackwell. Doi: 10.1002/9781119057574.whbva108

Hogh, A., Mikkelsen, E. G., & Hansen, A. M. (2011). Individual consequences of workplace bullying/mobbing. In S. Einarsen, H. Hoel, D. Zapf, & C. L. Cooper (Eds.), *Bullying and harassment in the workplace. Developments in theory, research, and practice* (2nd ed., pp. 107–128). Boca Raton, FL: CRC Press.

Holten, A. L., Hancock, G. R., Mikkelsen, E. G., Persson, R., Hansen, Å. M., & Høgh, A. (2017). The longitudinal effects of organizational change on experienced and enacted bullying behaviour. *Journal of Change Management, 17*, 67-89. Doi: 10.1080/14697017.2016.1215340

Homans, G. C. (1958). Social behavior as exchange. *American Journal of Sociology, 63*, 597-606. Doi: 10.1086/222355

Hurst, C., Simon, L., Jung, Y., & Pirouz, D. (2017). Are "bad" employees happier under bad bosses? Differing effects of abusive supervision on low and high primary psychopathy employees. *Journal of Business Ethics*. Advanced online publication. Doi: 10.1007/s10551-017-3770-5

Inglehart, R., & Baker, W. E. (2000). Modernization, cultural change, and the persistence of traditional values. *American Sociological Review, 65*, 19-51. Doi: 10.2307/2657288

Inness, M., Barling, J., & Turner, N. (2005). Understanding supervisor-targeted aggression: A within-person, between-jobs design. *Journal of Applied Psychology*, *90*, 731-739. Doi: 10.1037/0021-9010.90.4.731

Irani, F. S., & Oswald, S. L. (2009). Workplace aggression: is national culture a factor? *Business Renaissance Quarterly, 4*, 63-90. Doi: 10.2307/2657288

Jamil, A., Raja, U., & Darr, W. (2013). Psychological contract types as moderator in the breach-violation and violation-burnout relationships. *The Journal of Psychology*, *147*, 491–515. Doi: 10.1080/00223980.2012.717552

Jarreta, B. M., García-Campayo, J., Gascón, S., & Bolea, M. (2004). Medico-legal implications of mobbing: A false accusation of psychological harassment at the workplace. *Forensic Science International*, *146*, 17-18. Doi: 10.1016/j.forsciint.2004.09.010

Jenkins, M., Winefield, H., & Sarris, A. (2011). Consequences of being accused of workplace bullying: an exploratory study. *International Journal of Workplace Health Management, 4*, 33-47. Doi: 10.1108/17538351111118581

Jenkins, M. F., Zapf, D., Winefield, H., & Sarris, A. (2012). Bullying allegations from the accused bully's perspective. *British Journal of Management, 23*, 489-501. Doi: 10.1111/j.1467-8551.2011.00778.x

Jennifer, D., Cowie, H., & Ananiadou, K. (2003). Perceptions and experience of workplace bullying in five different working populations. *Aggressive Behavior, 29*, 489-496. Doi: 10.1002/ab.10055

Jex, S. M., & Bayne, A. M. (2017). Measurement of workplace aggression. In. N. A. Bowling & M. S. Hershcovis (Eds.), *Research and Theory on Workplace Aggression* (pp. 9-33). Cambridge: University Press.

Johns, N., & Menzel, P. J. (1999). "If you can't stand the heat!"... Kitchen violence and culinary art. *International Journal of Hospitality Management, 18*, 99-109.

Johnson, S. L. (2009). International perspectives on workplace bullying among nurses: A review. *International Nursing Review, 56*, 34–40. Doi: 10.1111/j.1466-7657.2008.00679.x

Johnson, T., Kulesa, P., Cho, Y. I., & Shavitt, S. (2005). The relation between culture and response styles: Evidence from 19 countries. *Journal of Cross-cultural Psychology, 36*, 264-277. Doi: 10.1177/0022022104272905

Jones, D. A. (2009). Getting even with one's supervisor and one's organization: Relationships among types of injustice, desires for revenge, and counterproductive work behaviors. *Journal of Organizational Behavior*, *30*, 525-542. Doi: 10.1002/job.563

Jones, S. E., Miller, J. D., & Lynam, D. R. (2011). Personality, antisocial behavior, and aggression: A meta-analytic review. *Journal of Criminal Justice, 39*, 329-337. Doi: 10.1016/j.jcrimjus.2011.03.004

Judd, C. M., McClelland, G. H., & Culhane, S. E. (1995). Data analysis: Continuing issues in the everyday analysis of psychological data. *Annual Review of Psychology, 46*, 433-465. Doi: 10.1146/annurev.psych.46.1.433

Judge, T. A., & Bono, J. E. (2001). Relationship of core self-evaluations traits—self-esteem, generalized self-efficacy, locus of control, and emotional stability—with job satisfaction and job performance: A meta-analysis. *Journal of Applied Psychology*, 86, 80-92. Doi: 10.1037//0021-9010.86.1.80

Kakarika, M., González-Gómez, H. V., & Dimitriades, Z. (2017). That wasn't our deal: A psychological contract perspective on employee responses to bullying. *Journal of Vocational Behavior, 100*, 43-55. Doi: 10.1016/j.jvb.2017.02.005

Karasek, R. A. (1979). Job demands, job decision latitude, and mental strain: Implications for job redesign. *Administrative Science Quarterly*, 285-308. Doi: 10.2307/2392498

Karatuna, I. (2015). Targets' coping with workplace bullying: A qualitative study. *Qualitative Research in Organizations and Management, 10*, 21-37. Doi: 10.1108/qrom-09-2013-1176

Keashly, L. (1998). Emotional abuse in the workplace: Conceptual and empirical issues. *Journal of Emotional Abuse, 1*, 85-117. Doi: 10.1300/j135v01n01_05

Keashly, L. (2001). Interpersonal and systemic aspects of emotional abuse at work: The target's perspective. *Violence and Victims, 16*, 233-268.

Keashly, L., Hunter, S., & Harvey, S. (1997). Abusive interaction and role state stressors: Relative impact on student residence assistant stress and work attitudes. *Work & Stress, 11*, 175-185. Doi: 10.1080/02678379708256833

Keashly, L., & Jagatic, K. (2011). North American perspectives on hostile behaviors and bullying at work. In S. Einarsen, H. Hoel, D. Zapf, & C. L. Cooper (Eds.), *Bullying and harassment in the workplace. Developments in theory, research, and practice* (2nd ed., pp. 41–71). Boca Raton, FL: CRC Press.

Keashly, L., Trott, V., & MacLean, L. M. (1994). Abusive behavior in the workplace: A preliminary investigation. Violence and Victims, 9, 341-357.

Kelloway, E. K., Mullen, J., & Francis, L. (2006). Divergent effects of transformational and passive leadership on employee safety. *Journal of Occupational Health Psychology*, *11*, 76-86. Doi: 10.1037/1076-8998.11.1.76

Kelloway, E. K., Sivanathan, N., Francis, L., & Barling, J. (2004). Poor leadership. In J. Barling, E. K. Kelloway, & M. R. Frone (Eds.). *Handbook of work stress* (pp. 89–112). Thousand Oaks: Sage publications.

Kivimäki, M., Virtanen, M., Vartia, M., Elovainio, M., Vahtera, J., & Keltikangas-Järvinen, L. (2003). Workplace bullying and the risk of cardiovascular disease and depression. *Occupational and Environmental Medicine, 60*, 779-783. Doi: 10.1136/oem.60.10.779

Koeszegi, S. T., Zedlacher, E., & Hudribusch, R. (2014). The war against the female soldier? The effects of masculine culture on workplace aggression. *Armed Forces & Society, 40*, 226-251. Doi: 10.1177/0095327x12460019

Kohn, A. (1992). *No contest: The case against competition*. Boston: Houghton-Mifflin.

Kowalski, R. M., Toth, A., & Morgan, M. (2018). Bullying and cyberbullying in adulthood and the workplace. *The Journal of Social Psychology*, *158*, 64-81. Doi: 10.1080/00224545.2017.1302402

Kräkel, M. (1997). Rent-seeking in Organisationen – eine ökonomische Analyse sozial schädlichen Verhaltens. *Schmalenbachs Zeitschrift für betriebswirtschaftliche Forschung, 49*, 535–555.

Kreuter, F., Presser, S., & Tourangeau, R. (2008). Social desirability bias in CATI, IVR, and web surveys. The effects of mode and question sensitivity. *Public Opinion Quarterly*, *72*, 847-865. Doi: 10.1093/poq/nfn063

Kudielka, B. M., & Kern, S. (2004). Cortisol day profiles in victims of mobbing (bullying at the work place): preliminary results of a first psychobiological field study. *Journal of Psychosomatic Research, 56*, 149-150. Doi: 10.1016/S0022-3999(03)00126-0

Kwan, S. S. M., Tuckey, M. R., & Dollard, M. F. (2016). The role of the psychosocial safety climate in coping with workplace bullying: A grounded theory and sequential tree analysis. *European Journal of Work and Organizational Psychology*, *25*, 133-148. Doi: 10.1080/1359432x.2014.982102

Lahelma, E., Lallukka, T., Laaksonen, M., Saastamoinen, P., & Rahkonen, O. (2012). Workplace bullying and common mental disorders: A follow-up study. *Journal of Epidemiology and Community Health, 66*, e3. Doi: 10.1136/jech.2010.115212

Lallukka, T., Haukka, J., Partonen, T., Rahkonen, O., & Lahelma, E. (2012). Workplace bullying and subsequent psychotropic medication: a cohort study with register linkages. *BMJ Open*, *2*(6), e001660. Doi: 10.1136/bmjopen-2012-001660

Lallukka, T., Rahkonen, O., & Lahelma, E. (2011). Workplace bullying and subsequent sleep problems-the Helsinki Health Study. *Scandinavian Journal of Work, Environment & Health, 37*, 204–212. Doi:10.5271/sjweh.3137

Landers, R. N., & Behrend, T. S. (2015). An inconvenient truth: Arbitrary distinctions between organizational, Mechanical Turk, and other convenience samples. *Industrial and Organizational Psychology, 8*, 142–164. Doi: 0.1017/iop.2015.13

Lang, F. R., John, D., Lüdtke, O., Schupp, J., & Wagner, G. G. (2011). Short assessment of the Big Five: Robust across survey methods except telephone interviewing. *Behavior Research Methods*, *43*, 548-567. Doi: 10.3758/s13428-011-0066-z

Lapierre, L. M., Spector, P. E., & Leck, J. D. (2005). Sexual versus nonsexual workplace aggression and victims' overall job satisfaction: a meta-analysis. *Journal of Occupational Health Psychology, 10*, 155-169. Doi: 10.1037/1076-8998.10.2.155

Laschinger, H. K. S., & Fida, R. (2014). A time-lagged analysis of the effect of authentic leadership on workplace bullying, burnout, and occupational turnover intentions. *European Journal of Work and Organizational Psychology, 23*, 739–753. Doi: 10.1080/1359432X.2013.804646

Laschinger, H. K. S., & Nosko, A. (2015). Exposure to workplace bullying and post-traumatic stress disorder symptomology: the role of protective psychological resources. *Journal of Nursing Management, 23*, 252-262. Doi: 10.1111/jonm.12122

Law, R., Dollard, M. F., Tuckey, M. R., & Dormann, C. (2011). Psychosocial safety climate as a lead indicator of workplace bullying and harassment, job resources, psychological health and employee engagement. *Accident Analysis & Prevention*, *43*, 1782-1793. Doi: 10.1016/j.aap.2011.04.010

Lawrence, C., & Leather, P. (1999). The social psychology of violence and aggression. In P. Leather, C. Brady, C. Lawrence, D. Beale & T. Cox (Eds.), *Work-related violence: Assessment and intervention* (pp. 34–51). London: Routledge.

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal and coping*. New York, NY: Springer.

Leach, L. S., Poyser, C., & Butterworth, P. (2016). Workplace bullying and the association with suicidal ideation/thoughts and behaviour: a systematic review. *Occupational and Environmental Medicine, 74*, 72-79. Doi: 10.1136/oemed-2016-104036

Lee, R. T., & Brotheridge, C. M. (2006). When prey turns predatory: Workplace bullying as a predictor of counteraggression/bullying, coping, and well-being. *European Journal of Work and Organizational Psychology*, *15*, 352-377. Doi: 10.1080/13594320600636531

Lee, R. T., & Brotheridge, C. M. (2017). Coping with workplace aggression. In N. A. Bowling & M. S. Hershcovis (Eds). *Research and theory on workplace aggression*, (pp. 271-295). Cambridge: University Press.

Lee, K., Kim, E., Bhave, D. P., & Duffy, M. K. (2016). Why victims of undermining at work become perpetrators of undermining: An integrative model. *Journal of Applied Psychology*, *101*, 915-924. Doi: 10.1037/apl0000092

Leon-Perez, J. M., Medina, F. J., Arenas, A., & Munduate, L. (2015). The relationship between interpersonal conflict and workplace bullying. *Journal of Managerial Psychology*, *30*, 250-263. Doi: 10.1108/jmp-01-2013-0034

Leon-Perez, J. M., Notelaers, G., Arenas, A., Munduate, L., & Medina, F. J. (2014). Identifying victims of workplace bullying by integrating traditional estimation approaches into a latent class cluster model. *Journal of Interpersonal Violence, 29*, 1155-1177. Doi: 10.1177/0886260513506280

Lewis, D., & Gunn, R. O. D. (2007). Workplace bullying in the public sector: Understanding the racial dimension. *Public administration, 85*, 641-665. Doi: 10.1111/j.1467-9299.2007.00665.x

Leymann, H. (1986). *Vuxenmobbning – om psykiskt våld i arbetslivet [Mobbing – psychological violence at work places].* Lund: Studentlitteratur.

Leymann, H. (1990a). *Handbok för användning av LIPT-formuläret för kartläggning av risker för psykiskt våld arbetsmiljön [The LIPT questionnaire – a manual].* Stockholm: Violen.

Leymann, H. (1990b). Mobbing and psychological terror at workplaces. *Violence and Victims, 5*, 119-126.

Leymann, H. (1996a). The content and development of mobbing at work. *European Journal of Work and Organizational Psychology, 5,* 165-184. Doi: 10.1080/13594329608414853

Leymann, H. (1996b). Handanleitung für den LIPT-Fragebogen (Leyman Inventory of Psychological Terror). Tübingen: Deutsche Gesellschaft für Verhaltenstherapie.

Leymann, H., & Gustavsson, B. (1984). *Psykiskt våld i arbetslivet. Två explorativa undersökningar [Psychological violence at work places: Two explorative studies].* (Undersökningsrapport 42.) Stockholm: Arbetarskyddsstyrelsen.

Leymann, H., & Gustafsson, A. (1996). Mobbing at work and the development of post-traumatic stress disorders. *European Journal of Work and Organizational Psychology, 5*, 251-275. Doi: 10.1080/13594329608414858

Li, X., & Lim, S. (2017). Cross-cultural differences in workplace aggression. In N. A. Bowling & M. S. Hershcovis (Eds). *Research and theory on workplace aggression*, (pp. 245-268). Cambridge: University Press.

Lian, H., Ferris, D. L., & Brown, D. J. (2012a). Does power distance exacerbate or mitigate the effects of abusive supervision? It depends on the outcome. *Journal of Applied Psychology*, *97*, 107-123. Doi: 10.1037/a0024610

Lian, H., Ferris, D. L., & Brown, D. J. (2012b). Does taking the good with the bad make things worse? How abusive supervision and leader–member exchange interact to impact need satisfaction and organizational deviance. *Organizational Behavior and Human Decision Processes*, *117*, 41-52. Doi: 10.1016/j.obhdp.2011.10.003

Liefooghe, A. P., & Mac Davey, K. (2001). Accounts of workplace bullying: The role of the organization. *European Journal of Work and Organizational Psychology*, *10*, 375-392. Doi: 10.1080/13594320143000762

Lind, K., Glasø, L., Pallesen, S., & Einarsen, S. (2009). Personality profiles among targets and nontargets of workplace bullying. *European Psychologist, 14*, 231-237. Doi: 10.1027/1016-9040.14.3.231

Lindroth, S. & Leymann, H. (1993). *Vuxenmobbning mot en minoritetsgrupp män inom barnomsorgen: Om mäns jämställdhet i ett kvinnodominerat yrke [Bullying of a male minority group within child-care: On men's equality in a female-dominated occupation]*. Stockholm: Swedish National Board of Occupational Safety and Health.

Linton, D. K., & Power, J. L. (2013). The personality traits of workplace bullies are often shared by their victims: Is there a dark side to victims? *Personality and Individual Differences, 54*, 738-743. Doi: 10.1016/j.paid.2012.11.026

Litman, L., Robinson, J., & Abberbock, T. (2017). TurkPrime.com: A versatile crowdsourcing data acquisition platform for the behavioral sciences. *Behavior research methods*, *49*, 433–442. Doi: 10.3758/s13428-016-0727-z

Liu, W., Chi, S.-C. S., Friedman, R., & Tsai, M.-H. (2009). Explaining incivility in the workplace: The effects of personality and culture. *Negotiation and Conflict Management Research, 2*, 164-184. Doi: 10.1111/j.1750-4716.2009.00035.x

Loh, J., Restubog, S. L. D., & Zagenczyk, T. J. (2010). Consequences of workplace bullying on employee identification and satisfaction among Australians and Singaporeans. *Journal of Cross-Cultural Psychology*, *41*, 236-252. Doi: 10.1177/0022022109354641

Lorenz, K. (2002). *On aggression*. London: Routledge.

Lutgen-Sandvik, P. (2003). The communicative cycle of employee emotional abuse: Generation and regeneration of workplace mistreatment. *Management Communication Quarterly, 16*, 471-501. Doi: 10.1177/0893318903251627

Lutgen-Sandvik, P., & McDermott, V. (2008). The constitution of employee-abusive organizations: A communication flows theory. *Communication Theory, 18*, 304–333. Doi: 10.1111/j.1468-2885.2008.00324.x

Mackey, J. D., Frieder, R. E., Brees, J. R., & Martinko, M. J. (2017). Abusive supervision: A meta-analysis and empirical review. *Journal of Management, 43*, 1940-1965. Doi: 10.1177/0149206315573997

Malinowski, B. (1932). *Crime and custom in savage society*. London: Paul, Trench, Trubner.

Manier, A. O., Kelloway, E. K., & Francis, L. (2017). Damaging the workplace: Consequences for people and organizations. In N. A. Bowling & M. S. Hershcovis (Eds). *Research and theory on workplace aggression*, (pp. 62-89). Cambridge: University Press.

Martinko, M. J., Harvey, P., Brees, J. R., & Mackey, J. (2013). A review of abusive supervision research. *Journal of Organizational Behavior, 34*, 120-137. Doi: 10.1002/job.1888

Martinko, M. J., Harvey, P., Sikora, D., & Douglas, S. C. (2011). Perceptions of abusive supervision: The role of subordinates' attribution styles. *The Leadership Quarterly, 22*, 751-764. Doi: 10.1016/j.leaqua.2011.05.013

Maslow, A. H. (1943). A theory of human motivation. *Psychological Review, 50*, 370-396. Doi: 10.1037/h0054346

Mathisen, G. E., Einarsen, S., & Mykletun, R. (2008). The occurrences and correlates of bullying and harassment in the restaurant sector. *Scandinavian Journal of Psychology*, *49*, 59-68. Doi: 10.1111/j.1467-9450.2007.00602.x

Matthiesen, S. B., & Einarsen, S. (2007). Perpetrators and targets of bullying at work: Role stress and individual differences. *Violence and Victims, 22*, 735-753. Doi: 10.1891/088667007782793174

Matthiesen, S. B., & Einarsen, S. (2010). Bullying in the workplace: Definition, prevalence, antecedents and consequences. *International Journal of Organization Theory & Behavior, 13*, 202-248. Doi: 10.1108/ijotb-13-02-2010-b004

Mauss, M. (1967). *The gift: Forms and functions of exchange in archaic societies*. New York: Norton.

Mawritz, M. B., Mayer, D. M., Hoobler, J. M., Wayne, S. J., & Marinova, S. V. (2012). A trickle-down model of abusive supervision. *Personnel Psychology*, *65*, 325-357. Doi: 10.1111/j.1744-6570.2012.01246.x

Mayer, D. M., Thau, S., Workman, K. M., Van Dijke, M., & De Cremer, D. (2012). Leader mistreatment, employee hostility, and deviant behaviors: Integrating self-uncertainty and thwarted needs perspectives on deviance. *Organizational Behavior and Human Decision Processes*, *117*, 24-40. Doi: 10.1016/j.obhdp.2011.07.003

McClelland, D. C. (1965). Toward a theory of motive acquisition. *American Psychologist, 20*, 321-333. Doi: 10.1037/h0022225

McClelland, D. C. (1985). *Human motivation*. Glenview, IL: Scott, Foresman.

McFarlin, S. K., Fals-Stewart, W., Major, D. A., & Justice, E. M. (2001). Alcohol use and workplace aggression: An examination of perpetration and victimization. *Journal of Substance Abuse*, *13*, 303-321. Doi: 10.1016/s0899-3289(01)00080-3

Meier, L. L., & Semmer, N. K. (2013). Lack of reciprocity, narcissism, anger, and instigated workplace incivility: A moderated mediation model. *European Journal of Work and Organizational Psychology*, *22*, 461-475. Doi: 10.1080/1359432X.2012.654605

Meschkutat, B., Stackelbeck, M., & Langenhoff, G. (2002). *Der Mobbing-Report. Eine Repräsentativstudie für die Bundesrepublik Deuschland*. Bremerhaven: Wirtschaftsverlag.

Meyer, J. P., & Allen, N. J. (1991). A three-component conceptualization of organizational commitment. *Human Resource Management Review, 1*, 61-89. Doi: 10.6007/ijarbss/v6-i12/2464

Meyer, J. P., Stanley, D. J., Herscovitch, L., & Topolnytsky, L. (2002). Affective, continuance, and normative commitment to the organization: A meta-analysis of antecedents, correlates, and consequences. *Journal of Vocational Behavior, 61*, 20-52. Doi: 10.1006/jvbe.2001.1842

Michel, J. S., O'Neill, S. K., Hartman, P., & Lorys, A. (2017). Amazon's Mechanical Turk as a Viable Source for Organizational and Occupational Health Research. *Occupational Health Science*. Advanced online publication. Doi: 10.1007/s41542-017-0009-x

Mikkelsen, E. G., & Einarsen, S. (2001). Bullying in Danish work-life: Prevalence and health correlates. *European Journal of Work and Organizational Psychology, 10*, 393-413. Doi: 10.1080/13594320143000816

Milam, A. C., Spitzmueller, C., & Penney, L. M. (2009). Investigating individual differences among targets of workplace incivility. Journal of Occupational Health Psychology, 14, 58-69. Doi: 10.1037/a0012683

Miller, J. D., & Lynam, D. R. (2001). Structural models of personality and their relation to antisocial behavior: A meta-analysis. *Criminology, 39*, 765−798. Doi: 10.1111/j.1745-9125.2001.tb00940.x

Mitchell, M. S., & Ambrose, M. L. (2007). Abusive supervision and workplace deviance and the moderating effects of negative reciprocity beliefs. *Journal of Applied Psychology, 92*, 1159-1168. Doi: 10.1037/0021-9010.92.4.1159

Mitchell, M. S., & Ambrose, M. L. (2012). Employees' behavioral reactions to supervisor aggression: An examination of individual and situational factors. *Journal of Applied Psychology*, *97*, 1148-1170. Doi: 10.1037/a0029452

Moayed, F. A., Daraiseh, N., Shell, R., & Salem, S. (2006). Workplace bullying: a systematic review of risk factors and outcomes. *Theoretical Issues in Ergonomics Science, 7*, 311-327. Doi: 10.1080/14639220500090604

Mobley, W. H. (1977). Intermediate linkages in the relationship between job satisfaction and employee turnover. *Journal of Applied Psychology, 62*, 237-240. Doi: 10.1037//0021-9010.62.2.237

Monteleone, P., Nolfe, G., Serritella, C., Milano, V., Di Cerbo, A., Blasi, F., ... & Maj, M. (2009). Hypoactivity of the hypothalamo-pituitary-adrenal axis in victims of mobbing:

role of the subjects' temperament and chronicity of the work-related psychological distress. *Psychotherapy and Psychosomatics, 78*, 381-383. Doi: 10.1159/000235980

Moreno-Jiménez, B., Rodríguez-Muñoz, A., Pastor, J. C., Sanz-Vergel, A. I., & Garrosa, E. (2009). The moderating effects of psychological detachment and thoughts of revenge in workplace bullying. *Personality and Individual Differences, 46*, 359-364. Doi: 10.1016/j.paid.2008.10.031

Morrison, E. W., & Robinson, S. L. (1997). When employees feel betrayed: A model of how psychological contract violation develops. *Academy of Management Review*, *22*, 226-256. Doi: 10.2307/259230

Murray, H. A. (1938). *Explorations in personality*. New York: Oxford University Press.

Nabe-Nielsen, K., Grynderup, M. B., Lange, T., Andersen, J. H., Bonde, J. P., Conway, P. M., ... & Hansen, Å. M. (2016). The role of poor sleep in the relation between workplace bullying/unwanted sexual attention and long-term sickness absence. *International Archives of Occupational and Environmental Health*, *89*, 967-979. Doi: 10.1007/s00420-016-1136-4

Nabe-Nielsen, K., Grynderup, M. B., Conway, P. M., Clausen, T., Bonde, J. P., Garde, A. H., ... & Hansen, Å. M. (2017). The role of psychological stress reactions in the longitudinal relation between workplace bullying and turnover. *Journal of Occupational and Environmental Medicine*, *59*, 665-672. Doi: 10.1097/JOM.0000000000001050

Namie, G. (2017). 2017 Workplace Bullying Institute. U.S. Workplace Bullying Survey. Workplace Bullying Institute, LLC. Retrieved from: http://workplacebullying.org/multi/pdf/2017/2017-WBI-US-Survey.pdf

Neall, A. M., & Tuckey, M. R. (2014). A methodological review of research on the antecedents and consequences of workplace harassment. *Journal of Occupational and Organizational Psychology, 87*, 225-257. Doi: 10.1111/joop.12059

Neuman, J. H., & Baron, R. A. (1998). Workplace violence and workplace aggression: Evidence concerning specific forms, potential causes, and preferred targets. *Journal of Management, 24*, 391-419. Doi: 10.1177/014920639802400305

Neuman, J. H., & Baron, R. A. (2011). Social antecedents of bullying: A social interactionist perspective. In S. Einarsen, H. Hoel, D. Zapf, & C. L. Cooper (Eds.), *Bullying and*

harassment in the workplace. Developments in theory, research, and practice (2nd ed., pp. 201–225). Boca Raton, FL: CRC Press.

Newman, D. A., Joseph, D. L., & Hulin, C. J. (2010). Job attitudes and employee engagement: Considering the attitude "A-factor". In S. Albrecht (Ed.), *The handbook of employee engagement: Perspectives, issues, research, and practices* (pp. 43–61). Cheltenham: Edward-Elgar.

Ng, T. W. (2017). Can idiosyncratic deals promote perceptions of competitive climate, felt ostracism, and turnover? *Journal of Vocational Behavior*, *99*, 118-131. Doi: 10.1016/j.jvb.2017.01.004

Niedhammer, I., Chastang, J. F., Sultan-Taïeb, H., Vermeylen, G., & Parent-Thirion, A. (2012). Psychosocial work factors and sickness absence in 31 countries in Europe. *The European Journal of Public Health*, *23*, 622-629. Doi: 10.1093/eurpub/cks124

Niedhammer, I., David, S., & Degioanni, S. (2007). Economic activities and occupations at high risk for workplace bullying: results from a large-scale cross-sectional survey in the general working population in France. International Archives of Occupational and Environmental Health, 80, 346-353. Doi: 10.1007/s00420-006-0139-y

Niedhammer, I., David, S., Degioanni, S., Drummond, A., Philip, P., & 143 Occupational Physicians. (2009). Workplace bullying and sleep disturbances: findings from a large scale cross-sectional survey in the French working population. *Sleep, 32*, 1211-1219. Doi: 10.1093/sleep/32.9.1211

Niedhammer, I., David, S., Degioanni, S., Drummond, A., Philip, P., & 143 occupational physicians. (2011). Workplace bullying and psychotropic drug use: the mediating role of physical and mental health status. *Annals of Occupational Hygiene*, *55*, 152-163. Doi: 10.1093/annhyg/meq086

Niedl, K. (1995). *Mobbing/Bullying am Arbeitsplatz. Eine empirische Analyse zum Phänomen sowie zu personalwirtschaftlich relevanten Effekten von systematischen Feindseligkeiten*. [Mobbing/bullying at work: An empirical analysis of the phenomenon and of the effects of systematic harassment on human resource management] München: Hampp.

Niedl, K. (1996). Mobbing and well-being: Economic and personnel development implications. *European Journal of Work and Organizational Psychology, 5*, 239-249. Doi: 10.1080/13594329608414857

Nielsen, M. B., & Einarsen, S. (2012). Outcomes of exposure to workplace bullying: A meta-analytic review. *Work & Stress, 26,* 309-332. Doi: 10.1080/02678373.2012.734709

Nielsen, M. B., Einarsen, S., Notelaers, G., & Nielsen, G. H. (2016). Does exposure to bullying behaviors at the workplace contribute to later suicidal ideation? A three-wave longitudinal study. *Scandinavian Journal of Work, Environment & Health, 42*, 246-250. Doi: 10.5271/sjweh.3554

Nielsen, M. B., Indregard, A. M. R., & Øverland, S. (2016). Workplace bullying and sickness absence: a systematic review and meta-analysis of the research literature. Scandinavian *Journal of Work, Environment & Health, 42*, 359-370. Doi: 10.5271/sjweh.3579

Nielsen, M. B., Gjerstad, J., Jacobsen, D. P., & Einarsen, S. V. (2017). Does ability to defend moderate the association between exposure to bullying and symptoms of anxiety? *Frontiers in Psychology, 8, 1953*. Doi: 10.3389/fpsyg.2017.01953

Nielsen, M. B., Glasø, L., & Einarsen, S. (2017). Exposure to workplace harassment and the Five Factor Model of personality: A meta-analysis. *Personality and Individual Differences, 104*, 195-206. Doi: 10.1016/j.paid.2016.08.015

Nielsen, M. B., & Knardahl, S. (2015). Is workplace bullying related to the personality traits of victims? A two-year prospective study. Work & Stress, 29, 128-149. Doi: 10.1080/02678373.2015.1032383

Nielsen, M. B., Matthiesen, S. B., & Einarsen, S. (2008). Sense of coherence as a protective mechanism among targets of workplace bullying. *Journal of Occupational Health Psychology, 13*, 128-136. Doi: 10.1037/1076-8998.13.2.128

Nielsen, M. B., Matthiesen, S. B., & Einarsen, S. (2010). The impact of methodological moderators on prevalence rates of workplace bullying. A meta-analysis. *Journal of Occupational and Organizational Psychology, 83,* 955-979. Doi: 10.1348/096317909x481256

Nielsen, M. B., Nielsen, G. H., Notelaers, G., & Einarsen, S. (2015). Workplace bullying and suicidal ideation: A 3-wave longitudinal Norwegian study. *American Journal of Public Health*, *105*, 23-28. Doi: 10.2105/ajph.2015.302855

Nielsen, M.B., Notelaers, G., & Einarsen, S. (2011). Measuring exposure to workplace bullying. In S. Einarsen, H. Hoel, D. Zapf, & C. L. Cooper (Eds.), *Bullying and*

harassment in the workplace. Developments in theory, research, and practice (2nd ed., pp. 149–174). Boca Raton, FL: CRC Press.

Nielsen, M. B., Emberland, J. S., & Knardahl, S. (2017). Workplace bullying as a predictor of disability retirement: a prospective registry study of Norwegian employees. *Journal of Occupational and Environmental Medicine, 59*, 609-614. Doi: 10.1097/jom.0000000000001026

Nielsen, M. B., Skogstad, A., Matthiesen, S. B., Glasø, L, Aasland, M. S., Notelaers, G., & Einarsen, S. (2009). Prevalence of workplace bullying in Norway: Comparisons across time and estimation methods. *European Journal of Work and Organizational Psychology, 18*, 81-101. Doi: 10.1080/13594320801969707

Nielsen, M. B., Tangen, T., Idsoe, T., Matthiesen, S. B., & Magerøy, N. (2015). Post-traumatic stress disorder as a consequence of bullying at work and at school. A literature review and meta-analysis. *Aggression and Violent Behavior, 21*, 17-24. Doi: 10.1016/j.avb.2015.01.001

Niven, K., Sprigg, C. A., & Armitage, C. J. (2013). Does emotion regulation protect employees from the negative effects of workplace aggression? *European Journal of Work and Organizational Psychology, 22*, 88-106. Doi: 10.1080/1359432X.2011.626200

Notelaers, G., Baillien, E., De Witte, H., Einarsen, S., & Vermunt, J. K. (2012). Testing the strain hypothesis of the Demand Control Model to explain severe bullying at work. *Economic and Industrial Democracy*, *34*, 69-87. Doi: 10.1177/0143831x12438742

Notelaers, G., De Witte, H., & Einarsen, S. (2010). A job characteristics approach to explain workplace bullying. *European Journal of Work and Organizational Psychology, 19,* 487-504. Doi: 10.1080/13594320903007620

Notelaers, G., & Einarsen, S. (2008, June). *The construction and validation of the Short – Negative Acts Questionnaire*. Paper presented at the 6th International Conference on Workplace Bullying, Montreal, Canada.

Notelaers, G., Einarsen, S., De Witte, H., & Vermunt, J. K. (2006). Measuring exposure to bullying at work: The validity and advantages of the latent class cluster approach. *Work & Stress, 20*, 289-302. Doi: 10.1080/02678370601071594

Notelaers, G., Hoel, H., van der Heijden, B., & Einarsen, S. (2018). Measuring bullying at work with the Short-Negative Acts Questionnaire: Identification of Targets and Criterion

Validity. *Work & Stress*. Advanced online publication. Doi: 10.1080/02678373.2018.1457736

O'Boyle, E. H., Forsyth, D. R., Banks, G. C., & McDaniel, M. A. (2012). A meta-analysis of the Dark Triad and work behavior: A social exchange perspective. *Journal of Applied Psychology, 97*, 557-579. Doi: 10.1037/a0025679

O'Connell, P. J., Calvert, E., & Watson, D. (2007). *Bullying in the workplace: Survey Reports 2007*. Dublin: Economic and Social Research Institute.

O'Moore, M., & Lynch, J. (2007). Leadership, working environment and workplace bullying. *International Journal of Organization Theory & Behavior*, *10*, 95-117. Doi: 10.1108/ijotb-10-01-2007-b005

O'Reilly, J., Robinson, S. L., Berdahl, J. L., & Banki, S. (2015). Is negative attention better than no attention? The comparative effects of ostracism and harassment at work. *Organization Science, 26*, 774-793. Doi: 10.1287/orsc.2014.0900

Oh, J. K., & Farh, C. I. (2017). An emotional process theory of how subordinates appraise, experience, and respond to abusive supervision over time. *Academy of Management Review*, *42*, 207-232. Doi: 10.5465/amr.2014.0347

Ohbuchi, K. I., Tamura, T., Quigley, B. M., Tedeschi, J. T., Madi, N., Bond, M. H., & Mummendey, A. (2004). Anger, blame, and dimensions of perceived norm violations: Culture, gender, and relationships. *Journal of Applied Social Psychology*, *34*, 1587-1603. Doi: 10.1111/j.1559-1816.2004.tb02788.x

Olweus, D. (1978). *Aggression in schools: Bullies and whipping boys*. Washington, DC: Hemisphere.

Olweus, D. (1993). *Bullying at schools: What we know and what we can do*. Oxford: Blackwell.

Ortega, A., Høgh, A., Pejtersen, J. H., & Olsen, O. (2009). Prevalence of workplace bullying and risk groups: a representative population study. *International Archives of Occupational and Environmental Health, 82*, 417-426. Doi: 10.1007/s00420-009-0409-6

Park, H., Hoobler, J. M., Wu, J., Liden, R. C., Hu, J., & Wilson, M. S. (2017). Abusive Supervision and Employee Deviance: A Multifoci Justice Perspective. *Journal of Business Ethics*. Advanced online publication. Doi: 10.1007/s10551-017-3749-2

Park, J. H., & Ono, M. (2017). Effects of workplace bullying on work engagement and health: The mediating role of job insecurity. *The International Journal of Human Resource Management*, 28, 3202-3225. Doi: 10.1080/09585192.2016.1155164

Parkins, I. S., Fishbein, H. D., & Ritchey, P. N. (2006). The influence of personality on workplace bullying and discrimination. *Journal of Applied Social Psychology, 36*, 2554-2577. Doi: 10.1111/j.0021-9029.2006.00117.x

Parzefall, M. R., & Salin, D. M. (2010). Perceptions of and reactions to workplace bullying: A social exchange perspective. *Human Relations, 63*, 761-780. Doi: 10.1177/0018726709345043

Penney, L. M., Martir, A., & Bok, C. (2017). Environmental antecedents of workplace aggression: A review and examination of psychological process. In N. A. Bowling & M. S. Hershcovis (Eds). *Research and theory on workplace aggression*, (pp. 34-61). Cambridge: University Press.

Penney, L. M., & Spector, P. E. (2002). Narcissism and counterproductive work behavior: Do bigger egos mean bigger problems? *International Journal of selection and Assessment, 10*, 126-134. Doi: 10.1111/1468-2389.00199

Persson, R., Høgh, A., Grynderup, M. B., Willert, M. V., Gullander, M., Hansen, Å. M., ... & Kaerlev, L. (2016). Relationship between changes in workplace bullying status and the reporting of personality characteristics. *Journal of Occupational and Environmental Medicine, 58*, 902-910. Doi: 10.1097/jom.0000000000000822

Persson, R., Hogh, A., Hansen, Å. M., Nordander, C., Ohlsson, K., Balogh, I., ... & Ørbæk, P. (2009). Personality trait scores among occupationally active bullied persons and witnesses to bullying. *Motivation and Emotion, 33*, 387-399. Doi: 10.1007/s11031-009-9132-6

Pheko, M. M., Monteiro, N. M., & Segopolo, M. T. (2017). When work hurts: A conceptual framework explaining how organizational culture may perpetuate workplace bullying. *Journal of Human Behavior in the Social Environment, 27*, 571-588. Doi: 10.1080/10911359.2017.1300973

Pilch, I., & Turska, E. (2015). Relationships between Machiavellianism, organizational culture, and workplace bullying: Emotional abuse from the target's and the perpetrator's perspective. *Journal of Business Ethics, 128*, 83-93. Doi: 10.1007/s10551-014-2081-3

Pindek, S., Arvan, M. L., & Spector, P. E. (2018). The stressor–strain relationship in diary studies: A meta-analysis of the within and between levels. *Work & Stress*. Advance online publication. Doi: 10.1080/02678373.2018.1445672

Pindek, S., & Spector, P. E. (2016). Organizational constraints: a meta-analysis of a major stressor. *Work & Stress, 30*, 7-25. Doi: 10.1080/02678373.2015.1137376

Pinder, C. C., & Harlos, K. P. (2001). Employee silence: Quiescence and acquiescence as responses to perceived injustice. *Research in personnel and human resources management* (pp. 331-369).

Pinder, C.C., & Harlos, K.P. (2001). Employee silence: quiescence and acquiescence as responses to perceived injustice, *Research in Personnel and Human Resources Management*, Vol. 20 (pp. 331-370). Emerald.

Plopa, M., Plopa, W., & Skuzińska, A. (2017). Bullying at work, personality and subjective well-being. *Journal of Occupational Health Psychology, 22*, 19-27. Doi: 10.1037/a0040320

Pluut, H., & Curşeu, P. L. (2013). Perceptions of intragroup conflict: The effect of coping strategies on conflict transformation and escalation. *Group Processes & Intergroup Relations*, *16*, 412-425. Doi: 10.1177/1368430212453633

Podsiadly, A., & Gamian-Wilk, M. (2017). Personality traits as predictors or outcomes of being exposed to bullying in the workplace. *Personality and Individual Differences, 115*, 43-49. Doi: 10.1016/j.paid.2016.08.001

Power, J. L., Brotheridge, C. M., Blenkinsopp, J., Bowes-Sperry, L., Bozionelos, N., Buzády, Z., ... & Madero, S. M. (2013). Acceptability of workplace bullying: A comparative study on six continents. *Journal of Business Research*, *66*, 374-380. Doi: 10.1016/j.jbusres.2011.08.018

Quine, L. (1999). Workplace bullying in NHS community trust: staff questionnaire survey. *BMJ, 318*, 228-232. Doi: 10.1136/bmj.318.7178.228

Quinney, R. (1972). Who is the Victim? *Criminology*, *10*, 314-323. Doi: 10.1111/j.1745-9125.1972.tb00564.x

Rai, A., & Agarwal, U. A. (2016). Workplace bullying: A review and future research directions. *South Asian Journal of Management, 23*, 27-56.

Rai, A., & Agarwal, U. A. (2017). Linking workplace bullying and work engagement: the mediating role of psychological contract violation. *South Asian Journal of Human Resources Management*, *4*, 42-71. Doi: 10.1177/2322093717704732

Rai, A., & Agarwal, U. A. (2018a). A review of literature on mediators and moderators of workplace bullying: Agenda for future research. *Management Research Review*. Advanced online publication. Doi: 10.1108/MRR-05-2016-0111

Rai, A., & Agarwal, U. A. (2018b). Workplace bullying and employee silence: A moderated mediation model of psychological contract violation and workplace friendship. *Personnel Review*, *47*, 226-256. Doi: 10.1108/PR-03-2017-0071

Raja, U., Johns, G., & Ntalianis, F. (2004). The impact of personality on psychological contracts. *Academy of Management Journal*, *47*, 350-367. Doi: 10.2307/20159586

Randle, J. (2003). Bullying in the nursing profession. *Journal of Advanced Nursing*, *43*, 395-401. Doi: 10.1046/j.1365-2648.2003.02728.x

Raver, J. L., & Barling, J. (2008). Workplace aggression and conflict: Constructs, commonalities, and challenges for future inquiry. In C. K. W. De Dreu, & M. J. Gelfand (Eds.), *The Psychology of Conflict and Conflict Management in Organizations* (pp. 211–244). Mahawah, NJ: Lawrence Erlbaum Associates.

Rayner, C. (1997). The incidence of workplace bullying. *Journal of Community & Applied Social Psychology, 7*, 199-208. Doi: 10.1002/(sici)1099-1298(199706)7:3<199::aid-casp418>3.3.co;2-8

Rayner, C. (1999). From research to implementation: Finding leverage for prevention. *International Journal of Manpower*, *20*, 28-38. Doi: 10.1108/01437729910268614

Rayner, C., & Cooper, C. L. (2003). The black hole in" bullying at work" research. *International Journal of Management and Decision Making, 4*, 47-64. Doi: 10.1504/ijmdm.2003.002488

Rayner, C., Hoel, H. & Cooper, C. L. (2002). *Workplace bullying*. London: Taylor & Francis.

Rayner, C., & Keashly, L. (2004). Bullying at work: A perspective from Britain and North America. In S. Fox, & P. E. Spector (Eds.), *Counterproductive work behavior* (pp. 271−296). Washington DC: American Psychological Association.

Rayton, B. A., & Yalabik, Z. Y. (2014). Work engagement, psychological contract breach and job satisfaction. *The International Journal of Human Resource Management*, *25*, 2382–2400. Doi: 10.1080/09585192.2013.876440

Reknes, I., Einarsen, S., Knardahl, S., & Lau, B. (2014). The prospective relationship between role stressors and new cases of self-reported workplace bullying. Scandinavian Journal of Psychology, 55, 45-52. Doi: 10.1111/sjop.12092

Reknes, I., Einarsen, S., Pallesen, S., Bjorvatn, B., Moen, B. E., & Magerøy, N. (2016). Exposure to bullying behaviors at work and subsequent symptoms of anxiety: the moderating role of individual coping style. *Industrial health, 54*, 421-432. Doi: 10.2486/indhealth.2015-0196

Richman, J. A., Rospenda, K. M., Flaherty, J. A., & Freels, S. (2001). Workplace harassment, active coping, and alcohol-related outcomes. *Journal of Substance Abuse*, *13*, 347-366. Doi: 10.1016/s0899-3289(01)00079-7

Richman, J. A., Rospenda, K. M., Nawyn, S. J., Flaherty, J. A., Fendrich, M., Drum, M. L., & Johnson, T. P. (1999). Sexual harassment and generalized workplace abuse among university employees: prevalence and mental health correlates. *American Journal of Public Health, 89*, 358-363. Doi: 10.2105/ajph.89.3.358

Richman, J. A., Shinsako, S. A., Rospenda, K. M., Flaherty, J. A., & Freels, S. (2002). Workplace harassment/abuse and alcohol-related outcomes: the mediating role of psychological distress. *Journal of Studies on Alcohol, 63*, 412-419. Doi: 10.15288/jsa.2002.63.412

Rigotti, T. (2009). Enough is enough? Threshold models for the relationship between psychological contract breach and job-related attitudes. *European Journal of Work and Organizational Psychology, 18*, 442–463. Doi: 10.1080/13594320802402039

Roberton, T., Daffern, M., & Bucks, R. S. (2012). Emotion regulation and aggression. *Aggression and Violent Behavior, 17*, 72-82. Doi: 10.1016/j.avb.2011.09.006

Robinson, S. L., & Bennett, R. J. (1995). A typology of deviant workplace behaviors: A multidimensional scaling study. *Academy of Management Journal, 38*, 555-572. Doi: 10.2307/256693

Robinson, S. L., & Morrison, E. W. (2000). The development of psychological contract breach and violation: A longitudinal study. *Journal of Organizational Behavior, 21*, 525-546. Doi: 10.1002/1099-1379(200008)21:5<525::aid-job40>3.0.co;2-t

Robinson, S. L., & O'Leary-Kelly, A. M. (1998). Monkey see, monkey do: The influence of work groups on the antisocial behavior of employees. *Academy of Management Journal, 41*, 658-672. Doi: 10.2307/256963

Robinson, S. L., O'Reilly, J., & Wang, W. (2013). Invisible at work: An integrated model of workplace ostracism. *Journal of Management, 39*, 203-231. Doi: 10.1177/0149206312466141

Robinson, S. L., & Schabram, K. (2017). Invisible at work: Workplace ostracism as aggression. In N. A. Bowling & M. S. Hershcovis (Eds). *Research and Theory on Workplace Aggression*, (pp. 221-244). Cambridge: University Press.

Robinson, S. L., Wang, W., & Kiewitz, C. (2014). Coworkers behaving badly: The impact of coworker deviant behavior upon individual employees. *Annual Review of Organizational Psychology and Organizational Behavior*, *1*, 123-143. Doi: 10.1146/annurev-orgpsych-031413-091225

Rodríguez-Muñoz, A., Baillien, E., De Witte, H., Moreno-Jiménez, B., & Pastor, J. C. (2009). Cross-lagged relationships between workplace bullying, job satisfaction and engagement: Two longitudinal studies. *Work & Stress, 23*, 225-243. Doi: 10.1080/02678370903227357

Rodríguez-Muñoz, A., Moreno-Jiménez, B., & Sanz-Vergel, A. I. (2015). Reciprocal relations between workplace bullying, anxiety, and vigor: a two-wave longitudinal study. *Anxiety, Stress, & Coping*, *28*, 514-530. Doi: 10.1080/10615806.2015.1016003

Rodríguez-Muñoz, A., Notelaers, G., & Moreno-Jiménez, B. (2011). Workplace bullying and sleep quality: The mediating role of worry and need for recovery. *Psicologia Conductual, 19*, 453-468.

Rospenda, K. M., Fujishiro, K., Shannon, C. A., & Richman, J. A. (2008). Workplace harassment, stress, and drinking behavior over time: Gender differences in a national sample. *Addictive behaviors*, *33*, 964-967. Doi: 10.1016/j.addbeh.2008.02.009

Rospenda, K. M., Richman, J. A., Wolff, J. M., & Burke, L. A. (2013). Bullying victimization among college students: Negative consequences for alcohol use. *Journal of Addictive Diseases*, *32*, 325-342. Doi: 10.1080/10550887.2013.849971

Rousseau, D. M. (1989). Psychological and implied contracts in organizations. *Employee Responsibilities and Rights Journal, 2*, 121-139. Doi: 10.1007/bf01384942

Rousseau, D. M. (2001). Schema, promise and mutuality: The building blocks of the psychological contract. *Journal of Occupational and Organizational Psychology*, *74*, 511-541. Doi: 10.1348/096317901167505

Ryan, R. M. (1995). Psychological needs and the facilitation of integrative processes. *Journal of Personality, 63*, 397–427. Doi: 10.1111/j.1467-6494.1995.tb00501.x

Ryan, R. M., & Deci, E. L. (2006). Self-regulation and the problem of human autonomy: does psychology need choice, self-determination, and will? *Journal of Personality*, *74*, 1557-1586. Doi: 10.1111/j.1467-6494.2006.00420.x

Ryan, C., & Lewis, J. M. (2017). *Computer and internet use in the United States: 2015*. US Department of Commerce, Economics and Statistics Administration, US Census Bureau.

Salin, D. (2001). Prevalence and forms of bullying among business professionals: A comparison of two different strategies for measuring bullying. *European Journal of Work and Organizational Psychology, 10*, 425−441. Doi: 10.1080/13594320143000771

Salin, D. (2003a). The significance of gender in the prevalence, forms and perceptions of workplace bullying. *Nordiske Organisasjonsstudier, 5*, 30-50.

Salin, D. (2003b). Ways of explaining workplace bullying: A review of enabling, motivating and precipitating structures and processes in the work environment. *Human Relations, 56*, 1213-1232. Doi: 10.1177/00187267035610003

Salin, D. (2003c). Bullying and organisational politics in competitive and rapidly changing work environments. *International Journal of Management and Decision Making*, *4*, 35-46. Doi: 10.1504/ijmdm.2003.002487

Salin, D. (2015). Risk factors of workplace bullying for men and women: The role of the psychosocial and physical work environment. *Scandinavian Journal of Psychology, 56*, 69-77. Doi: 10.1111/sjop.12169

Salin, D., & Hoel, H. (2011). Organisational causes of workplace bullying. In S. Einarsen, H. Hoel, D. Zapf, & C. L. Cooper (Eds.), *Bullying and harassment in the workplace.*

Developments in theory, research, and practice (2nd ed., pp. 227–243). Boca Raton, FL: CRC Press.

Salin, D., & Hoel, H. (2013). Workplace bullying as a gendered phenomenon. *Journal of Managerial Psychology, 28*, 235-251. Doi: 10.1108/02683941311321187

Salin, D., & Notelaers, G. (2017). The effect of exposure to bullying on turnover intentions: the role of perceived psychological contract violation and benevolent behaviour. *Work & Stress, 31*, 355-374. Doi: 10.1080/02678373.2017.1330780

Samnani, A. K. (2013). "Is this bullying?" Understanding target and witness reactions. *Journal of Managerial Psychology*, *28*, 290-305. Doi: 10.1108/02683941311321196

Samnani, A. K., & Singh, P. (2012). 20 years of workplace bullying research: A review of the antecedents and consequences of bullying in the workplace. *Aggression and Violent Behavior, 17*, 581-589. Doi: 10.1016/j.avb.2012.08.004

Samnani, A. K., & Singh, P. (2014). Performance-enhancing compensation practices and employee productivity: The role of workplace bullying. *Human Resource Management Review*, *24*, 5-16. Doi: 10.1016/j.hrmr.2013.08.013

Samnani, A. K., & Singh, P. (2016). Workplace bullying: Considering the interaction between individual and work environment. *Journal of Business Ethics, 139*, 537-549. Doi: 10.1007/s10551-015-2653-x

Samnani, A. K., Singh, P., & Ezzedeen, S. (2013). Workplace bullying and employee performance: An attributional model. *Organizational Psychology Review*, *3*, 337-359. Doi: 10.1177/2041386613475370

Saris, W. E., & Gallhofer, I. N. (2014). *Design, evaluation, and analysis of questionnaires for survey research*. Hoboken, NJ: John Wiley & Sons.

Saunders, P., Huynh, A., & Goodman-Delahunty, J. (2007). Defining workplace bullying behaviour professional lay definitions of workplace bullying. *International Journal of Law and Psychiatry, 30*, 340-354. Doi: 10.1016/j.ijlp.2007.06.007

Sayers, J. K., Sears, K. L., Kelly, K. M., & Harbke, C. R. (2011). When employees engage in workplace incivility: The interactive effect of psychological contract violation and organizational justice. *Employee Responsibilities and Rights Journal*, *23*, 269-283. Doi: 10.1007/s10672-011-9170-6

Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness Studies, 3*, 71-92.

Schein E. H. (2010). *Organizational culture and leadership*. 4th ed. San Francisco: Jossey-Bass.

Schilpzand, P., De Pater, I. E., & Erez, A. (2016). Workplace incivility: A review of the literature and agenda for future research. *Journal of Organizational Behavior*, *37*, 57-88. Doi: 10.1002/job.1976

Schmidt, S. (2009). Shall we really do it again? The powerful concept of replication is neglected in the social sciences. *Review of General Psychology, 13*, 90–100. Doi: 10.1037/a0015108

Schneider, B., Ehrhart, M. G., & Macey, W. H. (2013). Organizational climate and culture. *Annual Review of Psychology*, *64*, 361-388. Doi: 10.1146/annurev-psych-113011-143809

Schultz, P. P., Ryan, R. M., Niemiec, C. P., Legate, N., & Williams, G. C. (2015). Mindfulness, work climate, and psychological need satisfaction in employee well-being. *Mindfulness, 6*, 971-985. Doi: 10.1007/s12671-014-0338-7

Schyns, B., & Schilling, J. (2013). How bad are the effects of bad leaders? A meta-analysis of destructive leadership and its outcomes. *The Leadership Quarterly, 24*, 138-158. Doi: 10.1016/j.leaqua.2012.09.001

Seigne, E. (1998). Bullying at work in Ireland. In C. Rayner, M. Sheehan, & M. Barker (Eds.), *Bullying at work, 1998 Research Update Conference: Proceedings*. Stafford: Staffordshire University.

Seigne, E., Coyne, I., Randall, P., & Parker, J. (2007). Personality traits of bullies as a contributory factor in workplace bullying: An exploratory study. *International Journal of Organization Theory & Behavior, 10*, 118-132. Doi: 10.1108/ijotb-10-01-2007-b006

Severance, L., Bui-Wrzosinska, L., Gelfand, M. J., Lyons, S., Nowak, A., Borkowski, W., ... & Lin, C. C. (2013). The psychological structure of aggression across cultures. *Journal of Organizational Behavior, 34*, 835-865. Doi: 10.1002/job.1873

Shao, P., Resick, C. J., & Hargis, M. B. (2011). Helping and harming others in the workplace: The roles of personal values and abusive supervision. *Human Relations*, *64*(8), 1051-1078. Doi: 10.1177/0018726711399940

Sheldon, K. M., Elliot, A. J., Kim, Y., & Kasser, T. (2001). What is satisfying about satisfying events? Testing 10 candidate psychological needs. *Journal of Personality and Social Psychology*, *80*, 325-339. Doi: 10.1037/0022-3514.80.2.325

Shore, L. M., Coyle-Shapiro, J. A. M., Chen, X. P., & Tetrick, L. E. (2009). Social exchange in work settings: Content, process, and mixed models. *Management and Organization Review*, *5*, 289-302. Doi: 10.1111/j.1740-8784.2009.00158.x

Shore, L. M., & Tetrick, L. E. (1994). The psychological contract as an explanatory framework in the employment relationship. In C. Cooper & D. Rousseau (Eds.), *Trends in organizational behavior*, Vol. 1 (pp. 91–109). New York: Wiley.

Shore, L. M., Tetrick, L. E., Lynch, P., & Barksdale, K. (2006). Social and economic exchange: Construct development and validation. *Journal of Applied Social Psychology*, *36*, 837-867. Doi: 10.1111/j.0021-9029.2006.00046.x

Sischka, P., & Steffgen, G. (2015). *Quality of work-Index. Forschungsbericht zur Weiterentwicklung des Arbeitsqualitätsindexes in Luxemburg*. Inside Research Report. Luxembourg: Universität Luxemburg.

Sischka, P., & Steffgen, G. (2016). *Quality of work-Index. 2. Forschungsbericht zur Weiterentwicklung des Arbeitsqualitätsindexes in Luxemburg*. Working Paper. Luxembourg: Universität Luxemburg.

Sischka, P., & Steffgen, G. (2017). *Quality of work-Index. 3. Forschungsbericht zur Weiterentwicklung des Arbeitsqualitätsindexes in Luxemburg*. Working Paper. Luxembourg: Universität Luxemburg.

Simons, S. R., Stark, R. B., & DeMarco, R. F. (2011). A new, four-item instrument to measure workplace bullying. *Research in Nursing & Health, 34,* 132-140. Doi: 10.1002/nur.20422

Skarlicki, D. P., & Folger, R. (1997). Retaliation in the workplace: The roles of distributive, procedural, and interactional justice. *Journal of Applied Psychology, 82*, 434-443. Doi: 10.1037//0021-9010.82.3.434

Skogstad, A., Einarsen, S., Torsheim, T., Aasland, M. S., & Hetland, H. (2007). The destructiveness of laissez-faire leadership behavior. *Journal of Occupational Health Psychology*, *12*, 80-92. Doi: 10.1037/1076-8998.12.1.80

Skogstad, A., Matthiesen, S. B., & Einarsen, S. (2007b). Organizational changes: a precursor of bullying at work? *International Journal of Organization Theory & Behavior, 10*, 58-94. Doi: 10.1108/ijotb-10-01-2007-b003

Skogstad, A., Hetland, J., Glasø, L., & Einarsen, S. (2014). Is avoidant leadership a root cause of subordinate stress? Longitudinal relationships between laissez-faire leadership and role ambiguity. *Work & Stress*, *28*, 323-341. Doi: 10.1080/02678373.2014.957362

Skogstad, A., Torsheim, T., Einarsen, S., & Hauge, L. J. (2011). Testing the work environment hypothesis of bullying on a group level of analysis: Psychosocial factors as precursors of observed workplace bullying. *Applied Psychology*, *60*, 475-495. Doi: 10.1111/j.1464-0597.2011.00444.x

Smith, E. R. (2014). Research design. In H. T. Reis and C. M. Judd (Eds.), *Handbook of research methods in social and personality psychology* (2nd ed., pp. 27-48). Cambridge: University Press.

Smith, N. A., Sabat, I. E., Martinez, L. R., Weaver, K., & Xu, S. (2015). A convenient solution: Using MTurk to sample from hard-to-reach populations. *Industrial and Organizational Psychology*, *8*, 220-228. Doi: 10.1017/iop.2015.29

Smith, P. K., Singer, M., Hoel, H., & Cooper, C. L. (2003). Victimization in the school and the workplace: Are there any links? *British Journal of Psychology*, *94*, 175-188. Doi: 10.1348/000712603321661868

Spagnoli, P., Balducci, C., & Fraccaroli, F. (2017). A two-wave study on workplace bullying after organizational change: a moderated mediation analysis. *Safety science, 100*, 13-19. Doi: 10.1016/j.ssci.2017.05.013

Spector, P. E. (2011). The relationship of personality to counterproductive work behavior (CWB): An integration of perspectives. *Human Resource Management Review, 21*, 342-352. Doi: 10.1016/j.hrmr.2010.10.002

Spector, P. E., Coulter, M. L., Stockwell, H. G., & Matz, M. W. (2007). Perceived violence climate: A new construct and its relationship to workplace physical violence and verbal aggression, and their potential consequences. *Work & Stress*, *21*, 117-130. Doi: 10.1080/02678370701410007

Spector, P. E., & Fox, S. (2005). A model of counterproductive work behavior. In S. Fox & P. E. Spector (Eds.), *Counterproductive workplace behavior: Investigations of actors and targets* (pp. 151–174). Washington, DC: APA.

Spector, P. E., & Jex, S. M. (1998). Development of four self-report measures of job stressors and strain: interpersonal conflict at work scale, organizational constraints scale, quantitative workload inventory, and physical symptoms inventory. *Journal of Occupational Health Psychology, 3*, 356-367. Doi: 10.1037//1076-8998.3.4.356

Spector, P. E., Zapf, D., Chen, P. Y., & Frese, M. (2000). Why negative affectivity should not be controlled in job stress research: Don't throw out the baby with the bath water. *Journal of Organizational Behavior, 21*, 79-95. Doi: 10.1002/(sici)1099-1379(200002)21:1<79::aid-job964>3.0.co;2-g

Sperry, L. (2009). Mobbing and bullying: The influence of individual, work group, and organizational dynamics on abusive workplace behavior. *Consulting Psychology Journal: Practice and Research, 61*, 190-201. Doi: 10.1037/a0016938

Spratlen, L. P. (1994). Workplace mistreatment: Its relationship to interpersonal violence. *Journal of Psychosocial Nursing and Mental Health Services, 32*, 5-6.

Steffgen, G.; Kohl, D. (2013): *Rapport final sur le développement d'un indicateur de la qualité du travail au Luxembourg*. Working Paper. Luxembourg: Universität Luxemburg.

Steinmetz, H. (2013). Analyzing observed composite differences across groups. Is partial measurement invariance enough? *Methodology, 9*, 1–12. Doi: 10.1027/1614-2241/a000049

Sterud, T. (2013). Work-related psychosocial and mechanical risk factors for work disability: a 3-year follow-up study of the general working population in Norway. *Scandinavian Journal of Work, Environment & Health, 39*, 468-476. Doi: 10.5271/sjweh.3359

Stouten, J., Baillien, E., Van den Broeck, A., Camps, J., De Witte, H., & Euwema, M. (2010). Discouraging bullying: The role of ethical leadership and its effects on the work environment. *Journal of Business Ethics*, *95*, 17-27. Doi: 10.1007/s10551-011-0797-x

Strandmark, M., & Hallberg, L. R. M. (2007). The origin of workplace bullying: experiences from the perspective of bully victims in the public service sector. *Journal of Nursing Management*, *15*, 332-341. Doi: 10.1111/j.1365-2834.2007.00662.x

Stucke, T. S. (2002). Persönlichkeitskorrelate von Mobbing. Narzissmus und Selbstkonzeptklarheit als Persönlichkeitskorrelate bei Mobbingtätern. *Zeitschrift für Arbeits-und Organisationspsychologie, 46*, 216-221. Doi: 10.1026//0932-4089.46.4.216

Suazo, M. M. (2009). The mediating role of psychological contract violation on the relations between psychological contract breach and work-related attitudes and behaviors. *Journal of Managerial Psychology*, 24, 136-160. Doi: 10.1108/02683940910928856

Takaki, J., Taniguchi, T., Fukuoka, E., Fujii, Y., Tsutsumi, A., Nakajima, K., & Hirokawa, K. (2010). Workplace bullying could play important roles in the relationships between job strain and symptoms of depression and sleep disturbance. *Journal of Occupational Health, 52*, 367-374. Doi: 10.1539/joh.l10081

Takaki, J., Taniguchi, T., & Hirokawa, K. (2013). Associations of workplace bullying and harassment with pain. *International Journal of Environmental Research and Public Health, 10*, 4560–4570. Doi: 10.3390/ijerph10104560

Tarraf, R. C., Hershcovis, M. S., & Bowling, N. A. (2017). Moving the field of workplace aggression forward: Thoughts and recommendations. In N. A. Bowling & M. S. Hershcovis (Eds). *Research and Theory on Workplace Aggression*, (pp. 350-369). Cambridge: University Press.

Tarris, T. W. (2000). *A primer in longitudinal data analysis*. London. Sage.

Tedeschi, J. T., & Felson, R. (1994). *Violence, aggression, and coercive action*. Washington, DC: American Psychological Association.

Tepper, B. J. (2000). Consequences of abusive supervision. *Academy of Management Journal, 43*, 178-190. Doi: 10.2307/1556375

Tepper, B. J. (2007). Abusive supervision in work organizations: Review, synthesis, and research agenda. *Journal of Management*, 33, 261-289. Doi: 10.1177/0149206307300812

Tepper, B. J., Duffy, M. K., Henle, C. A., & Lambert, L. S. (2006). Procedural injustice, victim precipitation, and abusive supervision. *Personnel Psychology, 59*, 101–123. Doi: 10.1111/j.1744-6570.2006.00725.x

Tepper, B. J., & Henle, C. A. (2011). A case for recognizing distinctions among constructs that capture interpersonal mistreatment in work organizations. *Journal of Organizational Behavior, 32*, 487-498. Doi: 10.1002/job.688

Tepper, B. J., Simon, L., & Park, H. M. (2017). Abusive supervision. *Annual Review of Organizational Psychology and Organizational Behavior, 4*, 123-152. Doi: 10.1146/annurev-orgpsych-041015-062539

Tett, R. P., & Meyer, J. P. (1993). Job satisfaction, organizational commitment, turnover intention, and turnover: path analyses based on meta-analytic findings. *Personnel Psychology, 46*, 259-293. Doi: 10.1111/j.1744-6570.1993.tb00874.x

Torkelson, E., Holm, K., Bäckström, M., & Schad, E. (2016). Factors contributing to the perpetration of workplace incivility: the importance of organizational aspects and experiencing incivility from others. *Work & Stress*, *30*, 115-131. Doi: 10.1080/02678373.2016.1175524

Török, E., Hansen, Å. M., Grynderup, M. B., Garde, A. H., Høgh, A., & Nabe-Nielsen, K. (2016). The association between workplace bullying and depressive symptoms: the role of the perpetrator. *BMC Public Health, 16, 993*. Doi: 10.1186/s12889-016-3657-x

Tourangeau, R., Rips, L. J., & Rasinski, K. (2000). *The psychology of survey response*. Cambridge: University press.

Traweger, C., Kinzl, J. F., Traweger-Ravanelli, B., & Fiala, M. (2004). Psychosocial factors at the workplace—do they affect substance use? Evidence from the Tyrolean workplace study. *Pharmacoepidemiology and Drug Safety*, *13*, 399-403. Doi: 10.1002/pds.955

Trépanier, S. G., Fernet, C., & Austin, S. (2013). Workplace bullying and psychological health at work: The mediating role of satisfaction of needs for autonomy, competence and relatedness. *Work & Stress, 27*, 123-140. Doi: 10.1080/02678373.2013.782158

Trépanier, S. G., Fernet, C., & Austin, S. (2015). A longitudinal investigation of workplace bullying, basic need satisfaction, and employee functioning. *Journal of occupational health psychology*, *20*, 105–116. Doi: 10.1037/a0037726

Trépanier, S. G., Fernet, C., & Austin, S. (2016). Longitudinal relationships between workplace bullying, basic psychological needs, and employee functioning: a simultaneous investigation of psychological need satisfaction and frustration. *European Journal of Work and Organizational Psychology*, *25*, 690–706. Doi: 10.1080/1359432X.2015.1132200

Trudel, J., & Reio, T. G. (2011). Managing workplace incivility: The role of conflict management styles—antecedent or antidote? *Human Resource Development Quarterly*, *22*, 395-423. Doi: 10.1002/hrdq.20081

Tuckey, M. R., Dollard, M. F., Hosking, P. J., & Winefield, A. H. (2009). Workplace bullying: The role of psychosocial work environment factors. *International Journal of Stress Management*, *16*, 215-232. Doi: 10.1037/a0016841

Tuckey, M. R., Dollard, M. F., Saebel, J., & Berry, N. M. (2010). Negative workplace behaviour: temporal associations with cardiovascular outcomes and psychological health problems in Australian police. *Stress and Health, 26*, 372-381. Doi: 10.1002/smi.1306

Tuckey, M. R., & Neall, A. M. (2014). Workplace bullying erodes job and personal resources: Between-and within-person perspectives. *Journal of occupational health psychology*, *19*, 413-424. Doi: 10.1037/a0037728

Ursin, H., & Eriksen, H. R. (2010). Cognitive activation theory of stress (CATS). *Neuroscience & Biobehavioral Reviews, 34*, 877-881. Doi: 10.1016/j.neubiorev.2009.03.001

Van Assche, J., van der Kaap-Deeder, J., Audenaert, E., De Schryver, M., & Vansteenkiste, M. (2018). Are the Benefits of Autonomy Satisfaction and the Costs of Autonomy Frustration Dependent on Individuals' Autonomy Strength? *Journal of Personality*. Advanced online publication. Doi: 10.1111/jopy.12372

Vander Elst, T., Van den Broeck, A., De Witte, H., & De Cuyper, N. (2012). The mediating role of frustration of psychological needs in the relationship between job insecurity and work-related well-being. *Work & Stress*, *26*, 252-271. Doi: 10.1080/02678373.2012.703900

Van de Vliert, E., Einarsen, S., & Nielsen, M. B. (2013). Are national levels of employee harassment cultural covariations of climato-economic conditions? *Work & Stress, 27*, 106–122. Doi: 10.1080/02678373.2013.760901

Van den Broeck, A., Ferris, D. L., Chang, C. H., & Rosen, C. C. (2016). A review of self-determination theory's basic psychological needs at work. *Journal of Management*, *42*, 1195–1229. Doi: 10.1177/0149206316632058

Vandenberg, R. J., & Lance, C. E. (2000). A review and synthesis of the measurement invariance literature: Suggestions, practices, and recommendations for organizational research. *Organizational Research Methods, 3*, 4–70. Doi: 10.1177/109442810031002

van Prooijen, J. W., & de Vries, R. E. (2016). Organizational conspiracy beliefs: implications for leadership styles and employee outcomes. *Journal of Business and Psychology*, *31*, 479–491. Doi: 10.1007/s10869-015-9428-3

Vansteenkiste, M., & Ryan, R. M. (2013). On psychological growth and vulnerability: Basic psychological need satisfaction and need frustration as a unifying principle. *Journal of Psychotherapy Integration*, *23*, 263-280. Doi: 10.1037/a0032359

Vartia, M. (1996). The sources of bullying–psychological work environment and organizational climate. *European Journal of Work and Organizational Psychology, 5*, 203-214. Doi: 10.1080/13594329608414855

Vartia, M. A. (2001). Consequences of workplace bullying with respect to the well-being of its targets and the observers of bullying. *Scandinavian Journal of Work, Environment & Health, 27*, 63-69. Doi: 10.5271/sjweh.588

Vartia, M. (2010). Työorganisaatiot, johtaminen ja työilmapiiri. [Work organizations, management and atmosphere in the workplace]. In T. Kauppinen, R. Hanhela, I. Kandolin et al. (Eds.) *Work and Health in Finland 2009* (pp. 75-83), Työterveyslaitos (Finnish Institute of Occupational Health), Helsinki.

Vartia, M., & Hyyti, J. (2002). Gender differences in workplace bullying among prison officers. *European Journal of Work and Organizational Psychology*, *11*, 113-126. Doi: 10.1080/13594320143000870

Vartia-Väänänen, M. (2013). Workplace Bullying and Harassment in the EU and Finland. In K. Sugeno, (Ed.). *Workplace Bullying and Harassment* (pp. 1-22). Tokyo, Japan: The Japan Institute for Labour Police and Training.

Verkuil, B., Atasayi, S., & Molendijk, M. L. (2015). Workplace bullying and mental health: a meta-analysis on cross-sectional and longitudinal data. *PloS ONE, 10(8)*, e0135225. Doi: 10.1371/journal.pone.0135225

Vie, T. L., Glasø, L., & Einarsen, S. (2011). Health outcomes and self-labeling as a victim of workplace bullying. *Journal of Psychosomatic Research, 70*, 37-43. Doi: 10.1016/j.jpsychores.2010.06.007

Vie, T. L., Glasø, L., & Einarsen, S. (2012). How does it feel? Workplace bullying, emotions and musculoskeletal complaints. *Scandinavian Journal of Psychology, 53*, 165-173. Doi: 10.1111/j.1467-9450.2011.00932.x

Vranjes, I. Vanhoorne, S., Baillien, E., & De Witte, H. (2017). *A Question of time. Qualitatively assessing the validity of the six-month operationalization of the duration criterion of workplace bullying*. Paper presented at 22th Workshop Aggression, November 23-25, 2017, Limassol, Cyprus.

White, R. W. (1959). Motivation reconsidered: The concept of competence. *Psychological Review, 66*, 297−333. Doi: 10.1037/h0040934

Woodrow, C., & Guest, D. E. (2017). Leadership and approaches to the management of workplace bullying. *European Journal of Work and Organizational Psychology, 26*, 221-233. Doi: 10.1080/1359432X.2016.1243529

Wright, T. A., & Cropanzano, R. (2000). Psychological well-being and job satisfaction as predictors of job performance. *Journal of Occupational Health Psychology*, *5*, 84-94. Doi: 10.1037//1076-8998.5.1.84

Xu, A. J., Loi, R., & Lam, L. W. (2015). The bad boss takes it all: How abusive supervision and leader–member exchange interact to influence employee silence. *The Leadership Quarterly*, *26*, 763-774. Doi: 10.1016/j.leaqua.2015.03.002

Xu, T., Hanson, L. L. M., Lange, T., Starkopf, L., Westerlund, H., Madsen, I. E., ... & Hansen, Å. M. (2018). Workplace bullying and violence as risk factors for type 2 diabetes: a multicohort study and meta-analysis. *Diabetologia, 61*, 75-83. Doi: 10.1007/s00125-017-4480-3

Yang, L. Q., Caughlin, D. E., Gazica, M. W., Truxillo, D. M., & Spector, P. E. (2014). Workplace mistreatment climate and potential employee and organizational outcomes: A meta-analytic review from the target's perspective. *Journal of Occupational Health Psychology*, *19*, 315-335. Doi: 10.1037/a0036905

Zapf, D. (1999). Organisational, work group related and personal causes of mobbing/bullying at work. *International Journal of Manpower, 20*, 70-85. Doi: 10.1108/01437729910268669

Zapf, D., & Einarsen, S. (2005). Mobbing at work. Escalated conflicts in organizations. In S. Fox, & P. E. Spector (Eds.), *Counterproductive behavior in organizations: Investigations of actors and targets* (pp. 237−270). Washington, DC: APA.

Zapf, D. & Einarsen, S. (2011). Individual antecedents of bullying: Victims and perpetrators. In S. Einarsen, H. Hoel, D. Zapf, & C. L. Cooper (Eds.), *Bullying and harassment in the*

workplace. Developments in theory, research, and practice (2nd ed., pp. 177–200). Boca Raton, FL: CRC Press.

Zapf, D., Escartín, J., Einarsen, S., Hoel, H., & Vartia, M. (2011). Empirical findings on prevalence and risk groups of bullying in the workplace. In S. Einarsen, H. Hoel, D. Zapf, & C. L. Cooper (Eds.), *Bullying and harassment in the workplace. Developments in theory, research, and practice* (2nd ed., pp. 75–106). Boca Raton, FL: CRC Press.

Zapf, D., & Gross, C. (2001). Conflict escalation and coping with workplace bullying: A replication and extension. *European Journal of Work and Organizational Psychology, 10*, 497-522. Doi: 10.1080/13594320143000834

Zapf, D., Knorz, C., & Kulla, M. (1996). On the relationship between mobbing factors, and job content, social work environment, and health outcomes. *European Journal of Work and Organizational Psychology, 5*, 215-237. Doi: 10.1080/13594329608414856

Zhang, Y., & Liao, Z. (2015). Consequences of abusive supervision: A meta-analytic review. *Asia Pacific Journal of Management, 32*, 959-987. Doi: 10.1007/s10490-015-9425-0

Zhao, H. A. O., Wayne, S. J., Glibkowski, B. C., & Bravo, J. (2007). The impact of psychological contract breach on work-related outcomes: a meta-analysis. *Personnel Psychology*, *60*, 647-680. Doi: 10.3724/sp.j.1042.2012.01296

Zohar, D. (2002). The effects of leadership dimensions, safety climate, and assigned priorities on minor injuries in work groups. *Journal of Organizational Behavior, 23*, 75–92. Doi: 10.1002/job.130

2. Study 1: The Luxembourg Workplace Mobbing Scale. Psychometric properties of a short instrument in three different languages

2.1. Abstract

Workplace mobbing is a serious phenomenon that is costly to organizations and has various negative consequences of those targeted. The main purpose of the present study was to develop and validate a new short scale of workplace mobbing experience in three different language versions (German, French, Luxembourgish). Data were collected via computer-assisted telephone interviews in a sample of 1500 employees working in Luxembourg (aged from 17 to 64; 52.7 % male) that was representative of the commuter structure of Luxembourg's workforce. Confirmatory factor analysis showed that the newly developed 5-item scale has good psychometric properties and partial scalar measurement invariance for the three different language versions. Internal consistency was satisfactory ($\alpha = .73$). Correlations and hierarchical regression analysis with different working condition scales and psychological health scales confirm the construct validity of the new questionnaire. Although the present findings are preliminary in nature, they nevertheless support the reliability and validity of the scale and its use in psychological research.

Keywords: Workplace mobbing, scale development, well-being, working conditions, measurement invariance

2.2. Introduction

Many definitions of workplace mobbing as well as different terms for this phenomenon (e.g., bullying, harassment; Saunders, Huynh, & Goodman-Delahunty, 2007) exist in the research literature. Workplace mobbing can include personal attacks, social ostracism, hostile interactions or communications, and physical violence or threats, respectively (Lutgen-Sandvik, 2006). Most workplace mobbing definitions include notions of a power imbalance between the perpetrator and the victim as well as the frequency and length of the mobbing incidences (Vartia, 2003). Our use of the term workplace mobbing will refer to the following situation: An employee experiences workplace mobbing, when (s)he is being subjected to a series of negative and/or hostile acts or other behaviors that are experienced as annoying and/or oppressive at the workplace (Agervold & Mikkelsen, 2004). This definition includes workplace abuse from individual to individual as well as from group to individual.

Workplace mobbing is a serious phenomenon that is costly to organizations and has various negative consequences for the targeted employees. For instance, prolonged exposure to mobbing experiences at the workplace has been shown to decrease the overall job satisfaction (Nielsen & Einarsen, 2012) as well as life satisfaction (Bowling & Beehr, 2006). Moreover, it does not just have negative consequences for employees' health and well-being, but also for the company. Mobbing victims tend to have more sickness absence due to their mobbing related health issues (Nielsen & Einarsen, 2012). Similarly, the strain, fatigue, and reduced satisfaction with work resulting from prolonged exposure to mobbing can lead to a reduction of commitment as well as increased intention to leave or actual turnover (Hershcovis & Barling, 2010).

2.3. Mobbing questionnaires

Two approaches are commonly used in survey research to assess mobbing (Nielsen, Notelaers, & Einarsen, 2011). First, respondents indicate how often they have been subjected to mobbing based on a given definition (*self-labelling method*). Second, the respondents are asked how often they experienced certain behaviors that researchers define as mobbing behavior (*behavioral experience method*). Sometimes a combination of the two methods is used. The two approaches lead to different estimates of workplace mobbing exposure and prevalence of (Nielsen, Matthiesen, & Einarsen, 2010). However, studies showed that a clear overlap exists between self-reported mobbing and the indication of experiences of negative acts (e.g., Agervold, 2007).

Numerous self-report inventories and scales measuring exposure to mobbing have been developed. Two of the most known and most widespread workplace mobbing questionnaires utilizing the behavioral experience method are the Leymann Inventory of Psychological Terror (LIPT; Leymann, 1996a, 1996b) and the Negative Acts Questionnaire-Revised (NAQ-R; Einarsen, Hoel, & Notelaers 2009). The LIPT consists of a list of 45 negative acts asking whether employees have experienced them within the last 12 months. These negative acts are clustered in five categories: attacks on communication, on social relations, on the work performance, on an employees' reputation, and on the physical and psychological health of an employee (Leymann, 1996a). Garthus-Niegel and colleagues (2015) developed a short scale with five items based on the LIPT. They selected items with the aim to maximize sensitivity. The NAQ-R consists of a list of 22 negative acts relating to workplace mobbing. Einarsen, Hoel, and Notelaers (2009) showed a three-factor solution for the NAQ-R: personal bullying, work-related bullying, and physically intimidating forms of bullying. Simons, Stark, and DeMarco (2011) developed a four-item scale from the NAQ-R-US, a slightly modified version from the original NAQ-R. They extracted their items looking at the tradeoff between maximizing internal consistency, the amount of criteria variance explained (e.g., job satisfaction), and parsimony of the item set.

Importantly, existing scales have some weaknesses that may be pointed out: Both the LIPT and the NAQ-R (and most of their modified versions) are (still) rather long for practical issues. The four-item scale from Simons, Stark, and DeMarco (2011) is very short but has been tested only in a selective sample of nurses in the US showing limited generalizability. Moreover, most workplace mobbing questionnaires contain behaviors that might constitute a necessary part of work (e.g., workload, being transferred). These working-related necessities might not always be related to mobbing; in certain occupations, having to respect tight deadlines is simply part of the job, and employees might be transferred due to restructuring of the company as a consequence of financial hardship (Agervold, 2007). Additionally, other scales only have been tested in one or a few studies, a single language, or in specific cultural contexts. Finally, most studies are lacking profound tests of psychometric properties (Einarsen, Hoel, & Notelaers, 2009). Most importantly, none of these scales was tested for measurement invariance across different language versions that is a required condition to allow for comparisons across different language versions (Vandenberg & Lance, 2000).

To close this gap in the literature, we sought to develop a short scale that taps into similar criteria while at the same time avoiding to include behaviors into its items that might be

unspecific to workplace mobbing. As far as we know, no brief workplace mobbing scale with satisfying psychometric properties across different language versions in a general working population exists. Hence, the main purpose of the present study was to validate the newly developed Luxembourg Workplace Mobbing Scale (LWMS) and test it for measurement invariance between three different language versions.

2.4. Method

2.4.1. Data collection

The LWMS was evaluated as part of a study on quality of work and its effects on health and well-being in Luxembourg. This study was implemented by the University of Luxembourg in collaboration with the Luxembourg Chamber of Labor (a council that aims to defend the employees' rights concerning legislation) in 2014 and entailed Computer Assisted Telephone Interviews (CATI) with 1532 employees from Luxembourg's working population. The survey was conducted according to the Declaration of Helsinki (i.e., voluntary participation, participants were free to withdraw their consent at any time throughout the interviews without negative consequences for them). The LWMS exists in four language versions: Luxembourgish, French, German, and Portuguese. For the translation of the questionnaire, two translators were used. To check for correct translation, the questionnaire was back-translated using different translators, subsequently.

2.4.2. Participants

The sample consisted of 1532 employees working in Luxembourg who were randomly chosen from the working population. Due to incomplete data 1.7% ($n = 26$) of participants had to be excluded from the analyses. Only 0.4% ($n = 6$) of participants used the Portuguese version, thus it was excluded as well. Therefore, the effective sample consisted of 1500 employees (47.3% females, $n = 708$). In the effective sample, 13.8% ($n = 207$) answered the Luxembourgish version, 47.6% ($n = 714$) the French, and 38.6% ($n = 579$) the German questionnaire. Included were Luxembourg residents (59.7%, $n = 895$) and commuters from Belgium (9.9%, $n = 148$), France (20.1%, $n = 302$), and Germany (10.3%; $n = 155$), who received wages for work with at least 10 hours of work per week. People doing unpaid voluntary work or internships were excluded from the sample. The sample is representative in terms of workers' state of residency in Luxembourg (Inspection générale de la sécurité social Luxembourg, 2014; $\chi^2(3) = 5.631$, $p = 0.131$). The interviewees' age ranged from 17 to 64 years

($M = 44.0$, $SD = 9.4$). The majority of participants had an apprenticeship (34.3%, $n = 511$) or an academic degree (37.5%, $n = 558$). Most participants worked in commercial or business-related service professions (34.9%, $n = 495$) followed by production-oriented professions (29.5%, $n = 418$), personal service professions (25.2%, $n = 357$), other services (7.5%, $n = 107$) and IT- and natural science services (3.0%, $n = 42$).

2.4.3. Measures

Luxembourg Workplace Mobbing Scale (LWMS). In a first step, the workplace mobbing literature was screened for relevant workplace mobbing behaviors. During this literature review, priority was given to those mobbing behaviors that are typically found to be particularly detrimental. Accordingly, studies found that criticism and devaluation concerning an employee's work have the worst effect on psychological health, while ignoring an employee and assigning pointless tasks to someone have the worst effects on self-esteem (e.g., Vartia, 2001, 2003). Thus, four items were developed based on the LIPT that cover these forms of mobbing behavior. The authors chose one item out of three of the five categories of mobbing acts listed by Leymann (1996b) ("criticized", "ridiculed", "absurd duties"). Another item was self-formulated that covers the isolation-category of mobbing listed by Leymann ("ignored"). The last item was chosen because of its high sensitivity ("conflicts"). In light of the recent debate on the usefulness of frequency and duration of mobbing behaviors (Agervold, 2007), it was also decided against including time limitations in the item set (such as 'in the last 12 months'). The LWMS is comprised by five items that are presented in the Appendix. The response scale is a 5-point-Likert scale ranging from 1 (= *never*) to 5 (= *almost at all times*). Scores on the LWMS were calculated as the total mean across the items, thus ranging from 1 to 5, with higher scores reflecting a higher level of mobbing exposure. The reliability of the scale for the total sample is satisfactory ($\alpha = .73$). This was confirmed across the different language versions (Luxembourgish $\alpha = .76$, French $\alpha = .71$, German $\alpha = .73$).

All following scales have been ad-hoc designed for validation purposes. Unless specified, a 5-point Likert response format ranging from 1 (= *to a very small extent*) to 5 (= *to a very high extent*) was used.

Work satisfaction. The four item Work Satisfaction Scale (total $\alpha = .82$; language versions α ranged from .79 to .83) assesses global judgment of work satisfaction. It evaluates an employee's satisfaction with important work characteristics, such as work climate and work conditions. Higher scores imply that the employee is satisfied with her/his work. A sample item is 'Are you satisfied with your work climate?'

Respect. The second scale (total α = .72; language versions α ranged from .71 to .76) relates to the employee's perceived respect and consists of three items. Higher scores signify that an employee feels herself/himself respected from her/his company, superior and colleagues. A sample item is 'Is your work appreciated by your company?'.

Communication and feedback. The third scale (total α = .61; language versions α ranged from .59 to .62) aggregates three items that relate to the communication between a company and the employee. Thus, this scale is concerned with whether an employee gets to participate in decision-making at work and whether the company informs her/him of future plans that the company has. Higher scores imply that an employee has many opportunities to be involved in the decision-making process at work and received feedback from his work concerning future company plans. A sample item is 'Can you participate in the decisions made by your company?'.

Cooperation. The two item Cooperation Scale (total α = .64; language versions α ranged from .53 to .66) relates to cooperation and social support between colleagues at work. One question asks whether an employee is supported by his/her colleagues at work. The second question enquires whether an employee cooperates with his/her colleagues at work. Higher scores imply that the employee cooperates with and gets social support from others at work. A sample item is 'Do your colleagues support you at work?'

Appraisal of work. This scale (total α = .72; language versions α ranged from .74 to .69) aggregates two items which are concerned with an employee's appraisal of work. These two questions relate to intrinsic job rewards such as whether an employee considers his/her work to be important or if (s)he is proud of her/his work. Higher scores imply that an employee feels that her/his work is important and that (s)he is proud of her/his work. A sample item is 'Are you proud of your work?'

Mental strain at work. The three item scale (total α = .64; language versions α ranged from .61 to .71) is concerned with mental strain experienced at work. Three items cover having to work on different tasks at once, working under pressure, and doing intellectually demanding work. Higher scores signify that an employee faces high mental strain at work. A sample item is 'How often do you work under pressure?' The response scale is a 5-point-Likert scale ranging from 1 (= *never*) to 5 (= *almost at all times*).

Burnout. The seven item Burnout scale (total α = .77; language versions α ranged from .74 to .80) is based on the classical burnout description by Maslach, Jackson, and Leiter (1996).

Thus, the items enquire about experiences of exhaustion, cynicism, and lack of professional efficacy. Exhaustion is characterized as lack of energy and feelings of chronic fatigue or strain (Hakanen, Bakker, & Schaufeli, 2006). Higher scores imply that employees experience burnout. A sample item is 'How often do you feel that you cannot master your job any longer?' The response scale is a 5-point-Likert scale ranging from 1 (= *never*) to 5 (= *almost at all times*).

Psychological stress. This seven item scale (total α=.81; language versions α ranged from .80 to .85) refers to psychological consequences of job demands, such as feeling stressed by work, feelings of frustration and not being able to let go of work even after work hours. Higher scores signify that an employee faces high psychological stress related to work. A sample item is 'How often are you feeling stressed because of your work?'. The response scale is a 5-point-Likert scale ranging from 1 (= *never*) to 5 (= *almost at all times*).

2.5. Results

The overall mean of the LWMS was 1.80 ($SD = 0.58$). Men were more concerned with mobbing ($M = 1.84$, $SD = 0.59$) than women ($M = 1.75$, $SD = 0.56$, $F(1, 1498) = 9.238$, $p = .002$, $d = 0.16$). People who chose the Luxembourgish version had a mean of 1.83 ($SD = 0.63$), people who answered the French version reached a mean of 1.81 ($SD = 0.58$), and people who chose the German version had a mean of 1.77 ($SD = 0.55$). The language versions did not differ across mean scores ($F(2 , 1497) = 1.506$, $p = .222$, $\eta^2 = .00$).

2.5.1. Factor structure

Table 2-1 details the results of the descriptive data analysis for the whole sample and the different language versions. Due to high univariate skewness (0.60 to 3.03) and kurtosis (0.05 to 10.15) as well as multivariate kurtosis (Mardia's normalized multivariate kurtosis = 24.34), Satorra-Bentler scaled χ^2 and robust *SE*s (Satorra & Bentler, 2001) were calculated as they have been found to provide more accurate parameter estimations (Finney & DiStefano, 2013). Factor loadings for the Maximum Likelihood estimation ranged from .51 to .74. The results indicated that the single-factor model presented a good fit to the data for all versions (Table 2-2). While χ^2 was significant for the whole sample, it became non-significant for all language versions.

Table 2-1.   Means, standard deviations, skewness, kurtosis, reliability, and completely standardized factor loadings for the one-factor LWMS model.

Scale items	Mean	SD	Skewness	Kurtosis	ML λ
Total (N = 1500)					(.73)
Item 1 ("criticized")	2.22	0.84	0.72	0.89	.60
Item 2 ("ignored")	1.73	0.90	1.30	1.42	.63
Item 3 ("absurd duties")	1.85	0.96	1.09	0.70	.55
Item 4 ("ridiculed")	1.27	0.63	2.72	7.97	.58
Item 5 ("conflicts")	1.93	0.80	0.78	0.84	.62
Luxembourg version (n=207)					(.76)
Item 1	2.25	0.87	0.83	0.91	.66
Item 2	1.70	0.95	1.45	1.62	.55
Item 3	1.89	0.96	0.91	0.05	.61
Item 4	1.36	0.69	2.11	4.22	.59
Item 5	1.98	0.87	0.77	0.53	.74
French version (n=714)					(.71)
Item 1	2.20	0.87	0.60	0.39	.59
Item 2	1.82	0.94	1.11	0.79	.65
Item 3	1.90	0.97	0.99	0.44	.51
Item 4	1.28	0.65	2.72	8.03	.54
Item 5	1.88	0.80	0.69	0.28	.61
German version (n=579)					(.73)
Item 1	2.24	0.78	0.90	1.73	.60
Item 2	1.63	0.83	1.49	2.48	.64
Item 3	1.77	0.95	1.31	1.42	.57
Item 4	1.22	0.57	3.03	10.15	.64
Item 5	1.97	0.77	0.91	1.79	.58

Notes. ML = maximum likelihood estimation; λ = factor loading; Cronbach's α in brackets.

Table 2-2.   Fit indexes for LWMS one-factor model from confirmatory factor analysis

Version	χ^2	RMSEA	RMSEA 90% CI	SRMR	CFI
Total (N = 1500)	22.770***	.049	[.033; .065]	.022	.978
Luxembourg (n = 207)	6.991	.044	[.000; .098]	.034	.985
French (n = 714)	8.317	.030	[.000; .059]	.019	.991
German (n = 579)	13.257	.053	[.026; .082]	.027	.978

*Notes. df = 5; RMSEA = root mean squared error of approximation; RMSEA 90% CI = 90% confidence interval of root mean squared error of approximation; SRMR = standardized root mean square residual; CFI = comparative fit index; *** p < .001.*

Table 2-3 shows the results for the tests of different forms of measurement invariance. The ΔCFI was used to assess goodness of fit of measurement invariance models. A CFI change of ≥ -.01 between a baseline model and the resulting model indicates measurement invariance (Little, 2013). Factor-form and metric invariance were confirmed but scalar invariance was rejected between the different language versions of the LWMS. Therefore, a model with partial scalar invariance was estimated (Steinmetz, Schmidt, Tina-Booh, Wieczorek, & Schwartz, 2009). The intercept of item 2 for the French version, the intercept of item 3 for the German version, and the intercept of item 4 for the Luxembourgish version were freely estimated. Thus,

partial scalar invariance was confirmed. To determine generalizability, the measurement invariance tests were also conducted with weighted least squares means and variance adjusted estimator (Sass, Schmitt, & Marsh, 2014). This led to similar results.

Table 2-3. *Test of measurement invariance and fit indices for LWMS one-factor model across language versions (N = 1500).*

Form of invariance	χ^2	df	RMSEA	ΔRMSEA	CFI	ΔCFI
Factor-form invariance	28.383	15	.042		.984	
Metric invariance	37.113	25	.031	-.011	.986	.002
Scalar invariance	74.344***	35	.047	.016	.954	-.032
Partial scalar invariance	46.919	29	.034	.003	.978	-.007

Notes. *RMSEA* = root mean squared error of approximation; *CFI* = comparative fit index; *** p < .001.

2.5.2. Construct validity

Table 2-4 shows the intercorrelations between the LWMS and different work factors. All factors are negatively associated with the LWMS. Therefore, if employees are more satisfied with certain work characteristics and are well respected at their job, they are less likely to experience mobbing behaviors. Similar results are found for the different language versions of the LWMS. Additionally, Table 4 shows the correlations between the LWMS and measures of psychological stress and burnout. These are positively intercorrelated, as one would expect.

Table 2-4. *Correlations between LWMS and different work factors.*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) LWMS								
(2) Work satisfaction	-.53**							
(3) Respect	-.53**	.73**						
(4) Communication and feedback	-.31**	.51**	.62**					
(5) Cooperation	-.26**	.36**	.34**	.38**				
(6) Appraisal	-.22**	.37**	.31**	.25**	.23**			
(7) Mental strain at work	.29**	-.24**	-.16**	.01	.01	-.01		
(8) Burnout	.50**	-.57**	-.44**	-.31**	-.27**	-.31**	.27**	
(9) Psychological stress	.49**	-.47**	-.39**	-.21**	-.19**	-.14**	.48**	.66**

Notes. ** p < .01.

Table 2-5 shows the results of the hierarchical regression analysis with z-standardized variables. There is slight variation between the regression results of the different language versions. Only 'satisfaction' and 'respect' are significant predictors of mobbing experiences across all three language versions of the questionnaire. The predictors explained a considerable portion of criterion variance (R^2 = .35 to .41) of the LWMS.

Table 2-5.   Regression model with LWMS as the outcome variable across all versions.

	Total				Luxembourgish				French				German			
	Step 1		Step 2		Step 1		Step 2		Step 1		Step 2		Step 1		Step 2	
	β	SE β	β	SE β	β	SE β	β	SE β	β	SE β	β	SE β	β	SE β	β	SE β
Age	-0.02	0.02	-0.02	0.01	-0.03	0.04	-0.03	0.03	-0.00	0.02	-0.02	0.02	-0.02	0.02	-0.01	0.02
Gender	-0.07*	0.03	-0.07*	0.03	-0.04	0.10	-0.04	0.08	-0.08	0.05	-0.05	0.04	-0.08	0.05	-0.08*	0.04
Work sector																
Production (omitted)																
Personal services	-0.03	0.04	-0.01	0.04	-0.04	0.13	0.02	0.10	-0.15*	0.07	-0.09	0.06	0.10	0.07	0.08	0.06
Commercial services	-0.00	0.04	-0.04	0.03	0.04	0.12	0.02	0.10	-0.01	0.06	-0.04	0.05	0.03	0.06	-0.04	0.05
IT and natural science services	0.11	0.09	0.05	0.08	-0.31	0.46	-0.22	0.36	0.08	0.12	0.06	0.10	0.25	0.15	0.10	0.12
Others	0.07	0.06	-0.03	0.05	0.23	0.20	0.07	0.16	-0.05	0.08	-0.14	0.07	0.23*	0.11	0.12	0.09
Work satisfaction			-0.15**	0.02			-0.20**	0.06			-0.15**	0.03			-0.15**	0.03
Respect			-0.17**	0.02			-0.14*	0.06			-0.18**	0.03			-0.16**	0.03
Communication and feedback			0.01	0.02			-0.03	0.05			0.05	0.03			-0.02	0.02
Cooperation			-0.03*	0.01			0.02	0.04			-0.09**	0.02			0.02	0.02
Appraisal			-0.1	0.01			-0.02	0.04			0.01	0.02			-0.04*	0.02
Mental strain at work			0.10**	0.01			0.07	0.04			0.11**	0.02			0.09**	0.02
F-Test	2.198*		63.896**		0.636		10.952**		1.978		31.507**		1.800		23.848**	
R²	.01		.35		.02		.41		.02		.37		.02		.35	

Notes. ** p < .01, * p < .05.

2.6. Discussion

A review of the current literature on workplace mobbing revealed the lack of a short workplace mobbing scale that excludes work characteristics that might be unavoidable at work and therefore are unspecific to workplace mobbing (e.g., workload). The newly developed LWMS without such confounds showed good psychometric properties as tested in a CFA. Importantly, partial scalar measurement invariance for the three different language versions was corroborated which allows for meaningful mobbing level comparisons between the different language versions.

In order to evaluate the construct validity of the LWMS, correlations with other factors related to quality of work and measures of psychological health were assessed. As expected, all of these work factors were meaningfully intercorrelated with the LWMS and similar results were found for the different language versions. This finding makes sense, considering that mobbing at the workplace is often associated with a poor social climate at work (Agervold & Mikkelsen, 2004). Moreover, mobbing experiences are related to a decreased psychological health in the mobbing victim (Nielsen & Einarsen, 2012). Regression analyses revealed that particularly working place-related satisfaction and respect are associated with mobbing experiences across all language versions and showed (together with mental strain in the total version) the strongest links. Hence, these factors might be considered as focal but distinct byproducts of mobbing.

In general, the results are in line with previous research on work-related factors and workplace mobbing. Mobbing at the workplace is generally related to dissatisfaction with work, unsupportive and disrespectful relationships with superiors and a work climate where the employee's output is not appreciated (Hershcovis et al. 2007). Furthermore, mobbing is associated with a strained work environment, where a high workload is prevalent and employees work under pressure (Notelaers, De Witte, & Einarsen, 2010). Notably, the LWMS is independent of respondent age and work place sector rendering it a rather universal measure that could be used independent of differing work contexts.

2.7. Limitations and outlook

One important restriction of the LWMS is that it does not take the mobbing victim's perception of the seriousness of the mobbing exposure into account. Therefore, we do not know how the mobbing victims evaluate these experiences. Accounting for this might add to more

precise predictions of psychological and physiological health outcomes in future research. In addition, since the LWMS is a new instrument that has just passed preliminary tests, future studies should examine convergent and divergent validity with established constructs to further elucidate its construct validity. Nevertheless, in summary, we think due to its briefness and partial scalar invariance across language versions, the LWMS is a measure of workplace mobbing that is attractive for different research contexts.

2.8. References

Agervold, M. (2007). Bullying at Work: A discussion of definitions and prevalence, based on an empirical study. *Scandinavian Journal of Psychology, 48,* 161-172. Doi: 10.1111/j.1467-9450.2007.00585.x

Agervold, M., & Mikkelsen, E. G. (2004). Relationships between bullying, psychosocial work environment and individual stress reactions. *Work & Stress, 18*, 336-351. Doi: 10.1080/02678370412331319794

Bowling, N. A., & Beehr, T. A. (2006). Workplace harassment from the victim's perspective: a theoretical model and meta-analysis. *Journal of Applied Psychology, 91,* 998-1012. Doi: 10.1037/0021-9010.91.5.998

Einarsen, S., Hoel, H., & Notelaers, G. (2009): Measuring exposure to bullying and harassment at work: Validity, factor structure and psychometric properties of the Negative Acts Questionnaire-Revised. *Work & Stress, 23,* 24-44. Doi: 10.1080/02678370902815673

Finney, S. J., & DiStefano, C. (2013). Nonnormal and categorial data in structural equation modeling. In G. R. Hancock & R. O. Mueller (Eds.), *Structural equation modeling – a second course. 2. Ed.* (pp. 439-492). Charlotte, NC: Information Age Publishing.

Garthus-Niegel, S., Nübling, M., Letzel, S., Hegewald, J., Wagner, M., Wild, P. S., … Seidler, A. (2015). Development of a mobbing short scale in the Gutenberg Health Study. *International Archives of Occupational and Environmental Health*. Advance online publication. Doi:10.1007/s00420-015-1058-6

Hakanen, J. J., Bakker, A. B., & Schaufeli, W. B. (2006). Burnout and work engagement among teachers. *Journal of School Psychology, 43,* 495-513. Doi: 10.1016/j.jsp.2005.11.001

Hershcovis, M. S., Turner, N., Barling, J., Arnold, K. A., Dupré, K. E., Inness, M., LeBlanc, M. M., & Sivanathan, N. (2007). Predicting workplace aggression: A meta-analysis. *Journal of Applied Psychology, 92*, 228-238. Doi: 10.1037/0021-9010.92.1.228

Hershcovis, M. S., & Barling, J. (2010). Towards a multi-foci approach to workplace aggression: A meta-analytic review of outcomes from different perpetrators. *Journal of Organizational Behavior, 31,* 24-44. Doi: 10.1037/0021-9010.92.1.228

Inspection générale de la sécurité social (Ed.). (2014). *Rapport général sur la sécurité sociale au Grand-Duché de Luxembourg 2013*. Working Paper. Luxembourg.

Leymann, H. (1996a). The content and development of mobbing at work. *European Journal of Work and Organizational Psychology, 5,* 165-184. Doi: 10.1080/13594329608414853

Leymann, H. (1996b). *Handanleitung für den LIPT-Fragebogen.* Tübingen: Deutsche Gellschaft für Verhaltenstherapie Verlag.

Little, T. D. (2013). *Longitudinal structural equation modeling.* New York: Guilford Press.

Lutgen-Sandvik, P. (2006). Take this job and…: Quitting and other forms of resistance to workplace bullying. *Communication Monographs, 73*, 406-433. Doi: 10.1080/03637750601024156

Maslach, C., Jackson, S. E., & Leiter, M. P. (1996). *Maslach burnout inventory manual.* Mountain View, CA: Consulting Psychologists Press.

Nielsen, M. B., Matthiesen, S. B., & Einarsen, S. (2010). The impact of methodological moderators on prevalence rates of workplace bullying. A meta-analysis. *Journal of Occupational and Organizational Psychology, 83,* 955-979. Doi: 10.1348/096317909X481256

Nielsen, M.B., Notelaers, G., & Einarsen, S. (2011). Measuring exposure to workplace bullying. In S. Einarsen, H. Hoel, D. Zapf & C. L. Cooper (Eds.). *Bullying and harassment in the workplace: Developments in theory, research, and practice.* (2nd ed, pp. 149-174). Boca Raton: CRC Press.

Nielsen, M. B., & Einarsen, S. (2012). Outcomes of exposure to workplace bullying: A meta-analytic review. *Work & Stress, 26,* 309-332. Doi: 10.1080/02678373.2012.734709

Notelaers, G., De Witte, H., & Einarsen, S. (2010). A job characteristics approach to explain workplace bullying. *European Journal of Work and Organizational Psychology, 19,* 487-504. Doi: 10.1080/13594320903007620

Sass, D. A., Schmitt, T. A., & Marsh, H. W. (2014). Evaluating model fit with ordered categorical data within a measurement invariance framework: A comparison of estimators. *Structural Equation Modeling, 21,* 167-180. Doi: 10.1080/10705511.2014.882658

Satorra, A., & Bentler, P. M. (2001). A scaled difference chi-square test statistic for moment structure analysis. *Psychometrika, 66,* 507-514. Doi: 10.1007/BF02296192

Saunders, P., Huynh, A., & Goodman-Delahunty, J. (2007). Defining workplace bullying behaviour professional lay definitions of workplace bullying. *International Journal of Law and Psychiatry, 30*, 340-354. Doi: 10.1016/j.ijlp.2007.06.007

Simons, S. R., Stark, R. B., & DeMarco, R. F. (2011). A new, four-item instrument to measure workplace bullying. *Research in Nursing & Health, 34,* 132-140. Doi: 10.1002/nur.20422

Steinmetz, H., Schmidt, P., Tina-Booh, A., Wieczorek, S., & Schwartz, S. H. (2009). Testing measurement invariance using multigroup CFA: differences between educational groups in human values measurement. *Quality and Quantity, 43,* 599-616. Doi: 10.1007/s11135-007-9143-x

Vandenberg, R. J., & Lance, C. E. (2000). A Review and Synthesis of the Measurement Invariance Literature: Suggestions, Practices, and Recommendations for Organizational Research. *Organizational Research Methods, 3,* 4-70. Doi: 10.1177/109442810031002

Vartia, M. (2001). Consequences of workplace bullying with respect to the well-being of its targets and the observers of bullying. *Scandinavian Journal of Work, Environment & Health, 27,* 63-69. Doi: 10.5271/sjweh.588

Vartia, M. (2003). *Workplace bullying – A study on the work environment, well-being and health* (Unpublished doctoral dissertation). University of Helsinki, Helsinki, Finland.

2.9. Appendix

Table 2-6.   Items of the Luxembourg Workplace Mobbing Scale.

Language	Item number	Item	Answer categories
English (not tested)	1	How often is your work being criticized by your colleagues or your superior?	1 (= *Never*), 2 (= *Seldom*), 3 (= *Sometimes*), 4 (= *Often*), 5 (= *Almost at all times*).
	2	How often are you being ignored by your colleagues or your superior?	
	3	How often are you being assigned absurd duties by your superior?	
	4	How often are you being ridiculed by your colleagues or your superior in front of others?	
	5	How often do you have conflicts with your colleagues or your superior?	
German	1	Wie häufig wird Ihre Arbeit durch Ihre Kollegen oder Ihren Vorgesetzten kritisiert?	1 (=*Niemals*), 2 (=*Selten*), 3 (=*Manchmal*), 4 (= *Oft*) and 5 (= *Fast immer*)
	2	Wie häufig werden Sie auf der Arbeit von Ihren Kollegen oder Ihrem Vorgesetzten ignoriert?	
	3	Wie häufig kriegen Sie von Ihrem Vorgesetzten sinnlose Aufgaben zugewiesen?	
	4	Wie häufig werden Sie von Ihrem Vorgesetzten oder von Ihren Kollegen vor anderen lächerlich gemacht?	
	5	Wie häufig haben Sie Konflikte mit Ihren Kollegen oder Vorgesetzten?	
French	1	À quelle fréquence vos collègues ou votre supérieur critiquent-ils votre travail?	1 (= *Jamais*), 2 (= *Rarement*), 3 (= *Parfois*), 4 (= *Souvent*) and 5 (= *Presque tout le temps*)
	2	À quelle fréquence vos collègues ou votre supérieur vous ignorent-ils au travail?	
	3	À quelle fréquence votre supérieur vous assigne-t-il des missions dénuées de sens?	
	4	À quelle fréquence votre supérieur ou vos collègues vous ridiculisent-ils devant d'autres personnes?	
	5	À quelle fréquence arrive-t-il que vous soyez en conflit avec vos collègues ou votre supérieur?	
Luxembourgish	1	Wéi oft gëtt Är Aarbecht vun Äre Kollegen oder Ärem Supérieur kritiséiert?	1 (= *Ni*), 2 (= *Seelen*), 3 (= *Munchmol*), 4 (= *Oft*) and 5 (= *Bal ëmmer*)
	2	Wéi oft gitt Dir op der Aarbecht vun Äre Kollegen oder Ärem Supérieur ignoréiert?	
	3	Wéi oft kritt Dir vun Ärem Supérieur Aufgaben zougewisen, déi kee Sënn maachen?	
	4	Wéi oft gitt Dir vun Ärem Superieur oder vun Äre Kollegen virun aneren lächerlech gemaach?	
	5	Wéi oft hutt Dir Konflikter mat Äre Kollegen oder Ärem Superieur?	

3. Study 2: Further evidence for criterion validity and measurement invariance of the Luxembourg Workplace Mobbing Scale

3.1. Abstract

Workplace mobbing has various negative consequences for targeted individuals and is costly to organizations. At present it is debated whether gender, age, or occupation are potential risk factors. However, empirical data remain inconclusive as measures of workplace mobbing so far lack of measurement invariance (MI) testing – a prerequisite for meaningful manifest between-group comparisons. To close this research gap, the present study sought to further elucidate MI of the recently developed brief Luxembourg Workplace Mobbing Scale (LWMS; Steffgen, Sischka, Schmidt, Kohl, & Happ, 2016) across gender, age, and occupational groups and to test whether these factors represent important risk factors of workplace mobbing. Furthermore, we sought to expand data on criterion validity of the LWMS with different self-report criterion measures such as psychological health (e.g., work-related burnout, suicidal thoughts), physiological health problems, organizational behavior (i.e., subjective work performance, turnover intention, and absenteeism), and with a self-labeling mobbing index. Data were collected via computer-assisted telephone interviews in a representative sample of 1480 employees working in Luxembourg (aged from 16 to 66; 45.7 % female). Confirmatory factor analyses revealed scalar MI across gender and occupation as well as partial scalar invariance across age groups. None of these factors affected the level of workplace mobbing. Correlation and ROC analyses strongly support the criterion validity of the LWMS. Due to its briefness while at the same time being robust against language, age, gender, and occupation group factors and exhibiting meaningful criterion validity, the LWMS is particularly attractive for large-scale surveys as well as for single-case assessment and, thus, general percentile norms are reported (in the electronic supplement).

3.2. Introduction

Workplace mobbing is a serious phenomenon that has various negative consequences for the targeted employees health (e.g., depression, burnout), attitudes (e.g., lower job commitment), and work-related behavior (e.g., absence; Bowling & Beehr, 2006; Nielsen & Einarsen, 2012). There exist several measures of workplace mobbing (for an overview see Nielsen et al., 2010). However, these measures suffer from several shortcomings: First, they are rather long and therefore less economical (e.g., Leymann Inventory of Psychological Terror with 45 items; Leymann, 1996). Second, they are confounded with behaviors not relevant to workplace mobbing (e.g., respecting tight deadlines) which compromises construct validity (Agervold, 2007). Third, many scales have only been tested in selective samples, thus, limiting generalizability (e.g., Simons, Stark, & DeMarco, 2011). Finally, only limited data exist on these measures' psychometric properties (Einarsen, Hoel, & Notelaers, 2009).

With the aim to overcome these weaknesses, a brief five-item workplace mobbing measure – the Luxembourg Workplace Mobbing Scale (LWMS) – has recently been published (Steffgen, Sischka, Schmidt, Kohl, & Happ, 2016). The LWMS has good psychometric properties concerning its reliability, its one-factorial structure, and measurement invariance (MI) across three different language versions (German, French, Luxembourgish). Furthermore, indications of criterion validity were reported, as the LWMS was meaningfully associated with job satisfaction, respect at work, communication and feedback, cooperation, appraisal of work, mental strain at work, burnout, and psychological stress (Steffgen et al., 2016).

However, MI of the LWMS – a prerequisite for meaningful mean level comparisons – across gender, age, and occupational groups as frequently compared subsamples in the workplace mobbing literature remains untested to date. Furthermore, criterion validity so far rests on a restricted number of ad hoc designed self-report scales. Accordingly, the main purpose of the present study was to test the LWMS for MI across gender, age, and occupational groups and to expanding its nomological net with relevant psychological and physiological health measures as well as important organizational criteria (i.e., work performance, turnover intention, absenteeism).

3.3. Workplace mobbing exposure and measurement invariance

A critical task in the workplace mobbing research concerns the estimation of mobbing exposure for differential groups and the identification of possible risk groups (e.g., Mikkelsen, & Einarsen, 2001; Ortega, Høgh, Pejtersen, & Olsen, 2009). For instance, it is discussed

whether women are more exposed than men are (e.g., Salin & Hoel, 2013), whether younger employees are more exposed than older employees are (e.g., Quine, 1999), and whether work sectors differ with regard to mobbing exposure (e.g., Niedhammer, David, Degioanni, 2007). Comparisons of these risk groups hinge on the assumption that manifest mean levels are meaningfully comparable across subgroups. Critically, none of the existing workplace mobbing scales has been tested for MI across these groups, which is a prerequisite for such direct comparisons. In order to meaningfully compare constructs, the measurement structures of the latent factor and their corresponding manifest items need to be stable across the compared research units (e.g., Vandenberg & Lance, 2000). If MI has not been tested, differences between groups cannot be unambiguously attributed to 'real' differences or to differences in the measurement attributes (Steinmetz, 2013).

A lack of MI for different workplace mobbing assessment instruments across different groups is plausible, as the same negative behavior might be differently perceived across differential groups. These perceptive differences could stem from differential socialization, group norms, social expectations, as well as different power imbalance perception (Cortina & Magley, 2009; Salin & Hoel, 2013). For instance, men's perception of masculinity may affect the perception of what behavior depicts "being ridiculed" (Einarsen & Raknes, 1997) and this could substantially differ from women's perceptions. Therefore, gender differences due to differential sensitivity to classify certain experiences as mobbing behavior are plausible (e.g., Salin, 2003). For the same reason, one could also expect a lack of invariance for different age groups due to cohort socialization effects. Furthermore, different occupational norms might influence the perception of appropriate behavior standards across different occupational fields (Parzefall & Salin, 2010; Salin & Hoel, 2011).

Usually, MI is tested across a hierarchical set of increasingly stringent invariance assumptions (Widaman & Reise, 1997). Testing starts with configural invariance, followed by metric invariance, and finally scalar invariance (Vandenberg & Lance, 2000). *Configural invariance* refers to the same pattern of loadings of the items on the constructs in each group. Configural invariance supposes that the same indicators measure the same latent constructs in the compared groups (i.e., have the same meaning in all groups). This is supported if the same factor model structure fits the data well in all groups (Little, 2013). Configural invariance is a prerequisite for further MI tests and is used as the baseline model to evaluate further invariance tests (Little, 2013). *Metric invariance* indicates that the indicators have the same metric in all groups. In other words, metric invariance can be assumed when changes in the latent variable

lead to the same expected changes on the indicators in all groups (Vandenberg & Lance, 2000). The metric invariance assumption holds when the factor loadings can be constrained to have the same value in each group without a substantial deterioration of fit indices compared to the configural model. Finally, *scalar invariance* indicates that the meaning of the construct and the levels of the underlying items are equal across groups and groups are comparable on the latent variable (van de Schoot, Lugtig, & Hox, 2012). Hence, in order to test for scalar invariance, in addition to the constraints of equal factor loadings (i.e., metric invariance), the intercepts of each item are also being equated across groups. If this equality constraint does not lead to a substantial deterioration of fit indices compared to the metric invariance model, the assumption of scalar invariance holds. Because invariance of all indicators (full MI) is a very strict assumption that seldom is fulfilled, Byrne, Shavelson and Muthén (1989) introduced the concept of partial invariance. Partial invariance requires that only a subset of factor loadings and/or indicator intercepts must be invariant whereas others are allowed to vary between compared groups. (Partial) scalar invariance allows for meaningful level comparisons between different groups, because the observed indicators have identical (i.e., invariant) quantitative relationships with the latent variable within each group (e.g., Widaman & Reise, 1997).

3.4.   Criterion validity of workplace mobbing

Based on recent findings on workplace mobbing (e.g., Bowling & Beehr, 2006; Nielsen & Einarsen, 2012), we used several measures to expand analyses on criterion validity and the nomological net of the LWMS. Because Steffgen et al. (2016) already had tested the relationship between some job attitudes (work satisfaction, perceived respect), we now switched our focused on psychological and physiological health as well as organizational criteria with some objective (i.e., behavioral) indicators. In the following, we present the outcome constructs and the theory on why workplace mobbing should be related to them.

It can be hypothesized that prolonged exposure to workplace mobbing threatens fundamental psychological needs, (e.g., sense of belonging; Aquino & Thau, 2009). The victim is at the receiving end of negative social behavior that aims to stigmatize, to repress, and to belittle accomplishments (e.g., being ignored, ridiculed, criticized). In consequence, this fosters feelings of isolation, ostracism, oppression, incompetence, and self-doubt (Trépanier, Fernet, & Austin, 2015) in the mobbing victim. Self-determination theory states that such violations of basic psychological needs influence employee functioning and well-being (Deci & Ryan, 2008). Accordingly, the violation of these psychological needs has been associated with lower

work engagement and performance, increased burnout levels, and poor psychological health (Fernet, Austin, Trépanier, & Dussault, 2013; Van den Broeck, Vansteenkiste, De Witte, & Lens, 2008; Van den Broeck, Vansteenkiste, De Witte, Soenens, & Lens, 2010) as well as turnover intention (Richer, Blanchard, & Vallerand, 2002). Similarly, negative consequences could also be due to mobbing victims' attributions (Cortina & Magley, 2009). If mobbing victims attribute their experience to the organization (e.g., absence of protective conditions that could help them to cope with this stressor), they are likely to develop feelings of resentment towards not only the mobbing perpetrator but also the organization itself (e.g., due to felt psychological breaching and violation of contract; Parzefall & Salin, 2010). Among others, the negative consequences of such perceived breach are higher turnover intention and lower individual performance (Zhao, Wayne, Glibkowski, & Bravo, 2007). Indeed, workplace mobbing research showed associations between workplace mobbing and work engagement, performance, burnout, decreased general psychological health and turnover intention (e.g., Bowling & Beehr, 2006; Nielsen & Einarsen, 2012). As sickness absence is a common indicator of impaired health (Steers & Rhodes, 1984; Ortiz & Samaniego, 1995), absence at work has been empirically related to workplace mobbing (Ortega, Christensen, Hogh, Rugulies, & Borg, 2011).

In line with psychological stress theories (e.g., Lazarus & Folkman, 1984) workplace mobbing can be seen as a prolonged stressor that is systematically and persistently directed towards the mobbing victim (Hauge, Skogstadt, & Einarsen, 2010). As a prolonged stressor, it is conceivable that workplace mobbing leads to cognitive arousal (e.g., worrying, difficulty controlling thoughts) that leads to sleeping problems (Hansen, Hogh, Garde, & Persson, 2014). Furthermore, the Interpersonal Theory of Suicide (Van Orden, Wite, Cukrowciz, Braithwaite, Selby, & Joiner, 2010) states that when people over a prolonged period perceive themselves to be socially alienated from others (e.g., through social exclusion) and feel that they are a burden on others (e.g., feelings of incompetence), they can develop a desire to die, displayed by suicidal ideation. Therefore, the link between workplace mobbing and suicidal ideation seems conceivable. The tension reduction theory states that people use psychoactive substances, such as alcohol (Cooper, Frone, Russell, & Mudar, 1995) or nicotine (Breslau, Peterson, Schultz, Chilcoat, & Andreski, 1998) under conditions of psychological distress in order to decrease negative affective states. Therefore, a direct link between alcohol/nicotine consumption and workplace mobbing is to be expected. Furthermore, the concept of emotional eating states the tendency to eat in response to negative emotions in order to reduce emotional stress (Macht,

2008). Again, all these hypotheses were empirically supported: Workplace mobbing was linked with sleeping problems (Hansen, Hogh, Garde, & Persson, 2014), suicidal thoughts (Nielsen, Einarsen, Notelaers, & Nielsen, 2016), alcohol (Richman, Rospenda, Flaherty, & Freels, 2001) and nicotine use (Quine, 1999) and weight gain (Kivimäki et al., 2006).

Finally, when negative social behavior reaches a certain threshold, the target of these negative acts should perceive this as mobbing behavior (Parzefall & Salin, 2010). Workplace mobbing exposure has been shown to be related to employee's perception of being victimized (Agervold, 2007; Einarsen et al., 2009). Based on the abovementioned detrimental consequences of workplace mobbing, we hypothesized that the LWMS is negatively related to subjective psychological well-being, work engagement, sleeping hours, and work performance and positively related to physiological health problems, alcohol and smoking consumption, body mass index, suicidal thoughts, turnover intention, absenteeism and self-labeling as mobbing victim.

3.5. Method

3.5.1. Data collection

The LWMS was evaluated as part of a larger longitudinal research project on quality of work and its effects on health and well-being in Luxembourg (Sischka & Steffgen, 2016). This project was implemented by the University of Luxembourg in collaboration with the Luxembourg Chamber of Labor (a council that aims to defend the employees' rights concerning legislation) as an assessment over yearly waves since 2014. Data for the present research were entailed via Computer-Assisted Telephone Interviews (CATI) with employees from Luxembourg's working population from the 2016 wave. The LWMS exists in four language versions: Luxembourgish, French, German, and Portuguese (of which the first three exhibit at least partial scalar invariance, Steffgen et al., 2016). All data reported in the present research are cross-sectional.

3.5.2. Participants

The initial sample consisted of 1506 employees working in Luxembourg who were randomly chosen from the working population.[43] Due to incomplete data 1.7% ($n = 26$) of participants had to be excluded from the analyses. Therefore, the effective sample consisted of

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[43] Notably, due to the longitudinal design of the overarching research project, 488 (32.4%) respondents from the 2016 wave also participated in Steffgen et al. (2016; wave 2014).

1480 employees (45.7% females, $n = 676$). Included were Luxembourg residents (59.9%, $n = 886$) and commuters from Belgium (10.3%, $n = 152$), France (20.3%, $n = 301$), and Germany (9.5%; $n = 141$), who received wages for work with at least 10 hours of work per week. The interviewees' age ranged from 16 to 66 years ($M = 45.7$, $SD = 8.9$). The majority of participants had an apprenticeship (33.4%, $n = 495$) or an academic degree (37.9%, $n = 561$). Employees' occupations were classified according to the International Standard Classification of Occupations (ISCO-08; International Labour Organization, 2012). Most participants worked in a profession (26.7%, $n = 395$) followed by technicians and associate professionals (25.1%, $n = 371$), clerical support workers (12.8%, $n = 190$), service and sales workers (10.8%, $n = 160$), craft and related trades workers (9.5%, $n = 141$), managers (5.3% $n = 78$), plant and machine operators, and assemblers (4.5%, $n = 66$) and elementary occupations (3.6%, $n = 54$). Women are more likely to work as clerical support workers (17.3%, $n = 117$, men: 9.1%, $n = 73$) and service and sales workers (15.4%, $n = 104$, men: 7.0%, $n = 56$) and less likely to work as plant and machine operators (1.0, $n = 7$, men: 7.3, $n = 59$) and craft and related trades workers (0.6%, $n = 4$, men: 17.0, $n = 137$). Employees working as associate professionals (academic degree: 87.6%, $n = 346$) and managers (academic degree: 68.0%, $n = 53$) are more educated than employees working as plant and machine operators (academic degree: 4.6%, $n = 3$).

3.5.3. Measures

Luxembourg Workplace Mobbing Scale (LWMS). The LWMS (Steffgen et al., 2016) contains five items ("criticized", "ignored", "absurd duties", "ridiculed", "conflicts"). The response scale is a five-point-Likert scale ranging from 1 (= *never*) to 5 (= *almost at all times*). Scores on the LWMS were calculated as the mean across the items, thus ranging from 1 to 5, with higher scores reflecting a higher level of mobbing exposure. The reliability of the scale for the total sample is satisfactory ($\alpha = .72$, $\omega = .73$).

Well-Being. The five-item WHO-5 Well-Being Index ($\alpha = .85$, $\omega = .85$) is a well validated brief general index of subjective psychological well-being (World Health Organization, 1998; Topp, Østergaard, Søndergaard, & Bech, 2015) with a response format ranging from 1 (= *at no time*) to 6 (= *all of the time*). A sample item is "Over the past two weeks I have felt cheerful and in good spirits".

Work-related burnout. We used six items of the seven item[44] subscale of the Copenhagen Burnout Inventory (Kristensen, Borritz, Villadsen, & Christensen, 2005; α = .85, ω =.86). A sample item is "Do you feel that every working hour is tiring for you?". The response scale is a five-point Likert scale ranging from 1 (= *never*) to 5 (= *almost at all times*).

Vigor. The three item subscale (α = .71, ω =.71) of the Utrecht Work Engagement Scale (Schaufeli, Bakker, & Salanova, 2006) is characterized by high levels of energy and the willingness to invest effort in one's work, even when it comes to difficulties and problems. A sample item is "At my work, I feel bursting with energy". The response format ranges from 1 (= *never*) to 5 (= *almost at all times*).

The following scales have been ad hoc designed for validation purposes.

Subjective physiological health problems. This seven-item index (α = .73, ω =.74) is concerned with physiological health problems (general health problems, headaches, heart problems, back problems, joint problems, stomach pain, sleeping problems). Higher scores signify that an employee faces physiological health problems. A sample item is "How often do you suffer from headaches?". The response scale is a five-point-Likert scale ranging from 1 (= *never*) to 5 (= *almost at all times*).

Sleeping hours. The respondents were asked how many hours they sleep per day.

Alcohol consumption. At first the respondents were asked how often they drink at least one glass of alcohol with response scale ranging from 1 (= *never*) to 5 (= *each day or nearly each day*). If the respondents did not answer *never*, they were asked how many standard drinks they typically drink within a day with a response format ranging from 1 (= *one or two*) to 5 (= *ten or more*). With these items, we calculated the number of glasses of alcohol per week.

Smoking. First, the respondents were asked whether they smoke. Response format was dichotomous with 0 (= *no*) and 1 (= *yes*). If they stated "yes", they were asked how many cigarettes they smoke per day.

Body mass index. The respondents were asked about their body weight and body height. With this information, we calculated the body mass index (BMI).

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[44] Unfortunately, due to a programming error in the Computer-Assisted Telephone Interview scheme we lost one item of the original Copenhagen Burnout Inventory (i.e., "Do you have enough energy for family and friends during leisure time?").

Suicidal thoughts. The respondents were also asked if they had suicidal thoughts during the last 12 months. Response format was dichotomous with 0 (= *no*) and 1 (= *yes*).

Subjective work performance. Work performance was assessed by two items (α = .68, ω =.69). The two items are "How do you evaluate your general work performance compared to your colleagues?" and "How does your supervisor evaluate your general work?". Response format ranging from 1 (= *below average*) to 5 (= *above average*).

Turnover intention. The respondents were asked whether they planned to change their workplace in the near future. Response format was dichotomous with 0 (= *no*) and 1 (= *yes*).

Absenteeism. The respondents were asked how many days they were absent from work during the last twelve months.

Mobbing self-labeling. A two-item mobbing self-labeling index with a dichotomous response format was constructed. First, respondents got the following definition of mobbing: "Mobbing takes place, when a person is repeatedly treated badly or bullied by one or more persons with the intention to harm. In order to call a behavior mobbing, it has to be continued over a longer period and the affected person usually has difficulties to defend herself/himself. Singular conflicts and factually justified disputes do not represent mobbing". Subsequently, respondents were asked if they considered themselves as actual victims of mobbing exposure by their colleagues (item 1) or by their supervisor (item 2). If respondents stated that they felt they were mobbing victims by their colleagues and/or by their supervisor, they were counted as mobbing victims. Therefore, the index has the values of 0 (non-mobbing victim) or 1 (mobbing victim).

3.5.4. Statistical analysis

Given that the indicators' distribution has a strong influence on confirmatory factor analyses' (CFA) estimation results, univariate and multivariate distribution of the items were analyzed. Subsequently, the factorial structure of the LWMS was tested for each subgroup separately with CFAs to see if the one-factor model adequately fitted across all subgroups in order to evaluate more stringent MI models in the next steps. Satorra-Bentler scaled χ^2 and robust *SE*s (Satorra, & Bentler, 2001) were calculated as they provide more accurate parameter estimations for items with five answer categories and for distortion from univariate and multivariate normality (Finney & DiStefano, 2013). The effects-coding method was used for scale setting to estimate each construct's latent variance in a non-arbitrary metric (Little, Slegers, & Card, 2006). Therefore, the latent LWMS has a theoretical range from 1 to 5 (similar

to the manifest items). Model fit was evaluated with the root mean squared error of approximation (*RMSEA*), standardized root mean square residual (*SRMR*), comparative fit index (*CFI*), and Tucker-Lewis index (*TLI*). In a first step, we used the cutoff values from Hu and Bentler (1999) to evaluate the model fit for each group (*RMSEA* ≤ .06; *SRMR* ≤ .08, *CFI* ≥ .95; *TLI* ≥ .95). We used multigroup CFA to test for MI between the different language versions. The Δ*CFI* was used to assess goodness of fit of MI models as it has been shown to perform reasonably well in detecting (lack of) MI (e.g., Chen, 2007). A Δ*CFI* ≥ -.01 between a baseline model and the resulting model indicates MI (e.g., Little, 2013). If metric or scalar invariance was not supported, we switched to fixed-factor scale setting. In this case, we freed one parameter at a time and conducted χ^2-difference tests (Satorra & Bentler, 2001) between the nested models (i.e., model with equality constrains vs. model without equality constrains). To avoid Type I errors, we used an adjusted α-level (Bonferroni corrections). When the differentially functioning parameter was found, we switched again to the effects-coding method. Finally, to test for mean differences, we set the latent mean of the LWMS of the scalar (or partial scalar) invariance model to be equal across groups. We used χ^2-difference tests to examine, if the equated latent means led to a substantial deterioration in model fit compared to the scalar (or partial scalar) invariance model without equated latent means. Criterion validity is assessed with intercorrelations (Pearson's *r* and point-biserial correlations as effect sizes). However, due to the fact that particularly point-biserial correlations are base rate-dependent and thus become substantially reduced with increasing deviations from a 50% base rate (Babchishin & Helmus, 2016) we also report *AUC*s from ROC-analyses (Swets, 1986; AUCs of .50., .65, .75, and .90 correspond to unbiased r_{pb}s of 0, .26, .43 and .67, respectively; Rice & Harris, 2005) that are independent from base rates to correct for deflated associations due to floor effects in criterion base rates in case of frequency measures. Confidence intervals for the *AUC*s are computed with the method provided by DeLong, DeLong and Clarke-Pearson (1988) and for the sensitivity and specificity with the recommendations proposed by Carpenter and Bithell (2000). The software R version 3.4.3 (R Core Team, 2017) was used for data analyses.

3.6. Results

3.6.1. Preliminary analysis

Regarding univariate distribution for the whole sample, item means ranged from 1.27 to 2.25 (*SD* between 0.61 and 0.99), skewness between 0.61 and 2.65 and kurtosis between -.06 and 7.93. Furthermore, items violated multivariate normality (Mardia's multivariate

skewness: $\hat{\gamma}_{1,5} = 10.36$; $\chi^2 = 2555.40$; $p < .001$; Mardia's multivariate kurtosis: $\hat{\gamma}_{2,5} = 58.28$; $z = 53.52$; $p < .001$). Therefore, we estimated all model parameters, *SE*s, fit indices and χ^2-statistics according to Satorra and Bentler (2001).

3.6.2. Factor structure

The reliability of the LWMS for the total sample was satisfactory ($\alpha = .72$, $\omega = .73$). The one-factor structure established in Steffgen et al. (2016) fitted very well ($\chi^2 = 6.527$; *df* = 5; *p* = .258; *RMSEA* = .014; 90% CI = [.000; .035]; *SRMR* = .013; *CFI* = .998; *TLI* = .995).[45]

Regarding gender, reliability was satisfactory for men ($\alpha = .70$; $\omega = .70$) and women ($\alpha = .74$; $\omega = .75$). Table 3-1 shows the results for the tests of different forms of MI across gender. Scalar invariance was confirmed. Men and women did not differ in their mobbing levels (men: *M* = 1.85; *SD* = 0.46; women: *M* = 1.81; *SD* = 0.51; $\Delta\chi^2_{(1)} = 1.959$, *p* = .162).

Table 3-1.   *Fit indices for single CFAs and measurement invariance models across gender.*

Model	df	χ^{2a}	RMSEA	RMSEA 90% CI	SRMR	CFI	TLI
Men (*n* = 804)	5	6.926	.022	[.000; .051]	.017	.994	.989
Women (*n* = 676)	5	4.320	.000	[.000; .036]	.016	1.000	1.004
Configural invariance	10	1.784	.010	[.000; .035]	.017	.999	.998
Metric invariance	14	15.235	.011	[.000; .032]	.026	.998	.997
Scalar invariance	18	19.986	.012	[.000; .032]	.029	.997	.997

Notes. No model is significant. [a] Satorra-Bentler corrected; *RMSEA* = root mean squared error of approximation; *SRMR* = standardized root mean square residual; *CFI* = comparative fit index; *TLI* = Tucker-Lewis index.

Reliability for all age groups fell into an acceptable to satisfactory range (α range from .68 to .75; ω range from .68 to .76). Table 3-2 shows the results for the different MI tests across age groups. Configural and metric invariance were confirmed but scalar invariance was rejected. The χ^2-difference tests with Bonferroni corrections revealed no clear non-invariant parameter (see Appendix). Therefore, we freed the intercepts with the highest influence on model fit (i.e., items 1 and 2), thus leading to an acceptable deterioration in model fit compared to the metric invariance model. We used this partial scalar invariance model to test for mean differences between the age groups. Importantly, factor mean differences were thus exclusively based on the three items whose intercepts were fixed (items 3 to 5). This model showed no difference between the age groups regarding the workplace mobbing level (16-34 years: *M* =

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[45] As a control analysis, using only respondents (*n* = 992) who were not included in Steffgen et al. (2016) still revealed the one-factor structure ($\chi^2 = 7.236$; *df* = 5; *p* = .204; *RMSEA* = .021; 90% CI = [.000; .045]; *SRMR* = .017; *CFI* = .995; *TLI* = .990).

1.82, $SD = 0.46$; 35-44 years: $M = 1.86$, $SD = 0.52$; 45-54 years: $M = 1.77$, $SD = 0.48$; 55+ years: $M = 1.83$, $SD = 0.43$; $\Delta\chi^2_{(3)} = 4.531$, $p = .210$).

Table 3-2.   *Fit indices for single CFAs and measurement invariance models across age groups.*

Model	df	χ^{2a}	RMSEA	RMSEA 90% CI	SRMR	CFI	TLI
16-34 ($n = 175$)	5	5.217	.016	[.000; .090]	.034	.997	.994
35-44 ($n = 430$)	5	11.271*	.054	[.023; .085]	.034	.969	.938
45-54 ($n = 641$)	5	1.799	.000	[.000; .000]	.009	1.000	1.021
55+ ($n = 234$)	5	3.704	.000	[.000; .066]	.021	1.000	1.023
Configural invariance	20	22.920	.020	[.000; .044]	.021	.996	.992
Metric invariance	32	4.534	.027	[.000; .045]	.041	.988	.985
Scalar invariance	44	64.498*	.035	[.018; .050]	.046	.970	.973
Partial scalar invariance[b]	41	54.682	.030	[.007; .046]	.044	.980	.981

Notes. *$p < .05$; [a] Satorra-Bentler corrected; [b] = Intercept of items 1 and 2 freely estimated; *RMSEA* = root mean squared error of approximation; *SRMR* = standardized root mean square residual; *CFI* = comparative fit index; *TLI* = Tucker-Lewis index.

MI tests across different occupation groups were based on subgroups with a substantiate sample size ($n \geq 150$ respondents in order to guarantee substantial power for detecting at least moderately non-invariant items; Meade, & Bauer, 2007). These groups were profession ($n = 395$), technicians and associate professionals ($n = 371$), clerical support workers ($n = 190$), and service and sales workers ($n = 160$). Reliability for all four occupational groups was in a satisfactory range (α range from .71 to .75; ω range from .71 to .76). The results indicated that the single-factor model presented a good fit to the data for all tested groups (Table 3-3). Configural, metric, and scalar invariance were confirmed across occupation groups.

Table 3-3.   *Fit indices for single CFAs and measurement invariance models across occupational groups.*

Model	df	χ^{2a}	RMSEA	RMSEA 90% CI	SRMR	CFI	TLI
Professionals ($n = 395$)	5	2.060	.000	[.000; .028]	.013	1.000	1.035
Clerical support workers ($n = 190$)	5	5.977	.032	[.000; .099]	.029	.992	.984
Service and sales workers ($n = 160$)	5	7.507	.056	[.000; .108]	.041	.967	.934
Technicians and ass. professionals ($n = 371$)	5	5.086	.007	[.000; .065]	.020	1.000	.999
Configural invariance	20	21.846	.018	[.000; .049]	.022	.997	.993
Metric invariance	32	33.164	.011	[.000; .041]	.041	.998	.997
Scalar invariance	44	50.046	.022	[.000; .044]	.046	.989	.990

Notes. No model is significant. [a] Satorra-Bentler corrected; *RMSEA* = root mean squared error of approximation; *SRMR* = standardized root mean square residual; *CFI* = comparative fit index; *TLI* = Tucker-Lewis index.

The latent means and SDs of the LWMS for the different occupational groups were: professionals $M = 1.84$, $SD = 0.45$; clerical support workers $M = 1.82$, $SD = 0.48$; service and sales workers $M = 1.86$, $SD = 0.55$; technicians and associate professionals $M = 1.84$, $SD = 0.47$. The $\chi2$-difference test indicated no differences between the four occupation groups ($\Delta\chi2(3) = 0.412$, $p = .938$).

3.6.3. Criterion validity

Table 3-4 shows the intercorrelations (Pearson or point-biserial correlations, Cramer's *V*) between the LWMS and the criterion measures. Well-being as well as vigor were negatively correlated with the LWMS with moderate effect sizes. Sleeping hours and subjective work performance are also negatively correlated with the LWMS but with weaker effect sizes. Contrary, work-related burnout showed strong positive associations with the LWMS. Similarly, subjective health problems revealed a moderately positive effect. Another weak link was found for BMI and absenteeism. Alcohol and smoking consumption were not interrelated with the LWMS. The LWMS showed a moderate correlation with mobbing self-labelling.

Table 3-4. *Means, standard deviations, intercorrelations, and 95% confidence interval of intercorrelations.*

		1.	2.	3.	4.	5.	6.	7.	8.
1.	Sex[a]								
2.	Age	.01							
		[-.04; .06]							
3.	LWMS	-.04	-.02	(.72)					
		[-.09; -.01]	[-.07; .03]						
4.	Well-Being	-.02	.05*	-.33***	(.85)				
		[-.07; .03]	[.00; .10]	[-.38; -.29]					
5.	Work-related	.05*	-.03	.50***	-.53***	(.85)			
	burnout	[.00; .10]	[-.09; .02]	[.46; .53]	[-.56; -.49]				
6.	Vigor	.08**	.01	-.33***	.48***	-.51***	(.71)		
		[.03; .13]	[-.04; .06]	[-.38; -.29]	[.44; .52]	[-.55; -.47]			
7.	Subjective physiological health problems	.15***	.08**	.33***	-.41***	.57***	-.34***	(.73)	
		[.10; .20]	[.03; .13]	[.29; .38]	[-.46; -.37]	[.53; .60]	[-.38; -.29]		
8.	Sleeping hours	.06*	-.05*	-.18***	.18***	-.23***	.09***	-.27***	
		[.01; .11]	[-.10; .00]	[-.23; -.13]	[.13; .23]	[-.28; -.18]	[.04; .14]	[-.32; -.22]	
9.	Alcohol	-.19***	.07**	.02	-.01	.00	-.02	-.04	.00
		[-.24; -.14]	[.02; .12]	[-.03; .07]	[-.06; .05]	[-.05; .05]	[-.07; .03]	[-.09; .02]	[-.05; .05]
10.	Smoking	-.08**	-.02	.01	-.06*	.04	-.01	.07*	-.11***
		[-.03; -.13]	[-.07; .04]	[-.04; .06]	[-.11; -.01]	[-.01; .09]	[-.06; .04]	[.02; .12]	[-.16; -.05]
11.	BMI	-.24***	.05	.08**	-.01	.06*	-.08**	.09**	-.05
		[-.29; -.19]	[-.01; .10]	[.03; .13]	[-.07; .04]	[.00; .11]	[-.13; -.03]	[.04; .14]	[-.10; .00]
12.	Suicidal thoughts[a]	-.03	-.02	.16***	-.21***	.22***	-.15***	.20***	-.10***
		[-.08; .02]	[-.07; .03]	[.11; .21]	[-.26; -.16]	[.18; .27]	[-.20; -.10]	[.15; .25]	[-.15; -.05]
13.	Subjective work performance	.05	.09***	-.23***	.18***	-.17***	.24***	-.11***	.02
		[.00; .10]	[.04; .14]	[-.28; -.18]	[.13; .23]	[-.22; -.12]	[.19; .29]	[-.16; -.06]	[-.03; .07]
14.	Turnover intention[a]	-.01	-.16***	.21***	-.13***	.18***	-.18***	.12***	-.09***
		[-.06; .04]	[-.21; -.11]	[.16; .26]	[-.18; -.08]	[.13; .23]	[-.23; -.13]	[.06; .17]	[-.14; -.04]
15.	Absenteeism	.03	.04	.11***	-.10***	.17***	-.15***	.27***	-.04
		[-.02; .08]	[-.01; .09]	[.06; .16]	[-.15; -.05]	[.12; .22]	[-.20; -.10]	[.22; .31]	[-.09; .01]
16.	Mobbing self-labeling[a]	-.03	.04	.40***	-.21***	.27***	-.22***	.23***	-.12***
		[-.08; .02]	[-.01; .09]	[.35; .44]	[-.26; -.16]	[.22; .31]	[-.26; -.17]	[.18; .28]	[-.17; -.07]
	M	45.7% females	45.7	1.83	4.20	2.42	3.42	2.07	6.60
	SD		8.9	0.56	1.02	0.77	0.80	0.69	1.11

Notes. * $p < .05$, ** $p < .01$, *** $p < .001$; [a] higher values depict female, suicidal thoughts, turnover intention, mobbing victim, respectively. Cronbach's α in the main diagonal.

Table 3-4.   *Continued.*

		9.	10.	11.	12.	13.	14.	15.	.16
10.	Smoking	.10*** [.05; .15]							
11.	BMI	-.01 [-.06; .04]	-.01 [-.06; .04]						
12.	Suicidal thoughts[a]	-.01 [-.06; .04]	.05* [.00; .10]	.06* [.01; .11]					
13.	Subjective work performance	.03 [-.02; .08]	-.01 [-.06; .04]	-.04 [-.09; .01]	-.04 [-.09; .01]				
14.	Turnover intention[a]	-.01 [-.06; .04]	.00 [-.05; .05]	-.01 [-.06; .04]	.09*** [.04; .14]	-.04 [-.09; .01]			
15.	Absenteeism	-.03 [-.08; .02]	.06* [.01; .12]	.08** [.03; .14]	.16*** [.11; .21]	-.09*** [-.14; -.04]	.03 [-.02; .08]		
16.	Mobbing self-labeling[a]	-.03 [-.08; .02]	.06* [.01; .12]	.07** [.02; .12]	.20*** [.15; .25]	-.17*** [-.22; -.12]	.17*** [.12; .22]	.13*** [.08; .18]	
	M	3.70	3.11	25.77	3.2% suicidal thoughts	3.74	14.6% turnover intention	7.08	
	SD	6.20	6.92	4.50		0.73		19.25	

Notes. * $p < .05$, ** $p < .01$, *** $p < .001$; [a] higher values depict female, suicidal thoughts, turnover intention, mobbing victim, respectively. Cronbach's α in the main diagonal.

Regarding the dichotomous variables we found considerably deviation from a 50% base rate for turnover intention (14.6%), mobbing self-labelling (5.7%) and suicidal thoughts (3.3%), making the interpretation of *AUC*s more appropriate than point-biserial correlations (Babchishin & Helmus, 2016). Calculating *AUC*s, the LWMS showed moderate links with turnover intention (*AUC* = .66, $p < .001$, 95% CI [.62; .70]), suicidal thoughts (*AUC* = .69, $p < .001$, 95% CI [.61; .77]) and a very strong link with self-labeled mobbing victim status (*AUC* = .87, $p < .001$, 95% CI [.82; .91]) with considerable sensitivity and specificity (Figure 3-1).

Figure 3-1.   *Receiver operating characteristic curve with LWMS as predictor and self-labeling mobbing victim status as outcome.*
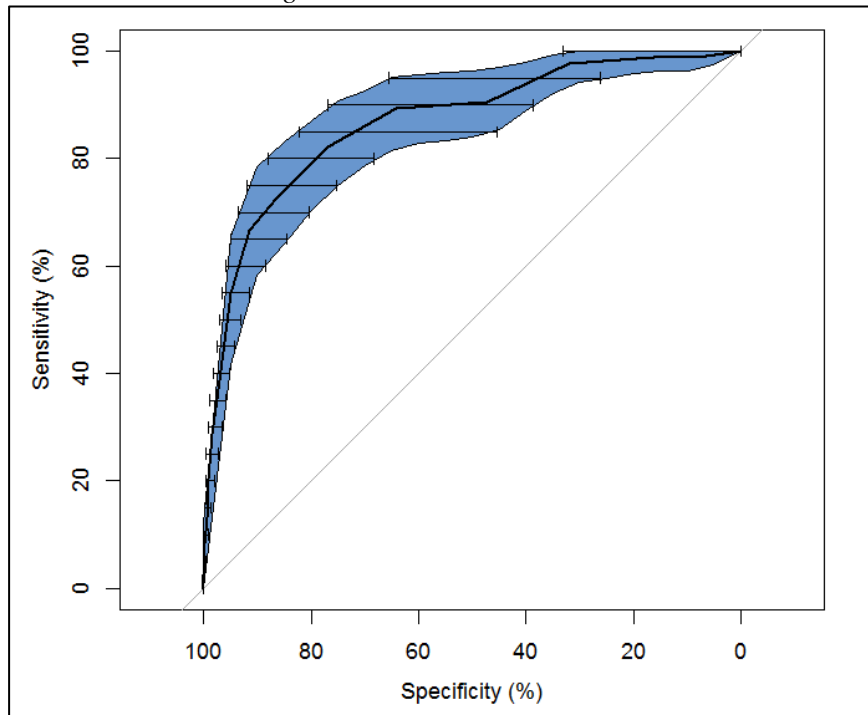
Notes. Bootstrapped CI95 of the specificity at given sensitivity points.

3.7. Discussion

Our study aims were to replicate the factor structure of the recently developed five-item LWMS (Steffgen et al., 2016) and to test for MI across frequently compared subsamples in the workplace mobbing literature (e.g., Einarsen & Skogstadt, 1996; Mikkelsen & Einarsen, 2001; Ortega et al., 2009; Salin & Hoel, 2013). The one-factorial structure of the LWMS was replicated in an independent sample. Additionally, evaluation of different MI models confirm invariance across all compared groups[46]. This corroborates that the LWMS is suitable for frequently analyzed manifest subgroup comparisons. Notably, from a theoretical perspective our results suggest that neither age, gender, nor the most frequent areas of occupation in Luxembourg represent important risk factors for workplace mobbing.

Empirical evidence for gender (e.g., Niedhammer et al., 2007; Zapf, Escartín, Einarsen, Hoel, & Vartia, 2011) and age differences (e.g., Einarsen & Skogstadt, 1996; Einarsen & Raknes, 1997; Hauge, Skogstadt, & Einarsen, 2009) of workplace mobbing exposure hitherto is mixed. While some part of the explanation of these inconclusive findings may be a) based on the lack of a common method (self-labelling with or without definition vs. behavioral approach), b) varying measures of workplace mobbing, or c) possible country-specific effects (Nielsen, Matthiesen, & Einarsen, 2010), an additional explanation rests on the absence of MI testing for these measures. Even if the first three aspects were constant, the latter criticism would question results from manifest group comparisons. Therefore, although several studies found manifest occupational differences (e.g., Einarsen & Skogstadt, 1996; Niedhammer et al., 2007), it cannot be ruled out that these differences are based on differences in the measurement attributes of the measures. However, within this study we show that the LWMS is invariant across these subgroups, and therefore, can be used to study possible differences across these groups.

In order to further evaluate the criterion validity of the LWMS, theoretically meaningful correlations with measures of psychological health (i.e., well-being, burnout, vigor, suicidal thoughts), subjective physiological health problems, sleeping hours, alcohol and smoking

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[46] For age groups full scalar invariance was not confirmed but Bonferroni corrected χ^2-difference tests did not indicate any of the items as non-invariant, thus, the indicated non-invariance by ΔCFI could be due to random error. However, we relaxed the two constraints in the model that had the highest influence on model misfit. Relaxing constraints without a strong theory or statistical justification bears the risk of capitalizing on chance. Nevertheless, using the full scalar mode to estimate the latent mean and mean differences yielded very similar results (16-34 years: $M = 1.81$, $SD = 0.46$; 35-44 years: $M = 1.86$, $SD = 0.52$; 45-54 years: $M = 1.77$, $SD = 0.48$; 55+ years: $M = 1.83$, $SD = 0.43$; $\Delta\chi^2_{(3)} = 4.414$, $p = .220$). Nevertheless, the demonstrated partial invariance with three invariant out of five indicators still allows for meaningful level comparisons (e.g., Steenkamp & Baumgartner, 1998).

consumption, body mass index, various important organizational criteria (i.e., absenteeism, subjective work performance, turnover intention) and self-labeled mobbing victim status were explored. With the exceptions of alcohol and smoking consumption, all proposed psychological well-being and organizational criteria are meaningfully associated with the LWMS corroborating criterion validity of the scale.

3.8. Limitations and outlook

Since the data were collected via CATI it remains unclear whether other data collection methods (e.g., paper-and-pencil or online survey) will replicate the reported MI properties of the LWMS. Future research might also test MI for a wider range of less frequent occupational groups that could not be tested in this study due to sample size restrictions. Because of the cross-sectional design of the study, none of the correlations between the LWMS and the different criteria can be interpreted in a causal manner. Finally, all results are based on self-report data exclusively.

Since the LWMS is a new instrument that now has passed a series of thorough psychometric testing, future studies should focus on divergent validity to further elucidate its construct validity. In summary, we think particularly due to its briefness while at the same time exhibiting meaningful criterion validity and generally good psychometric properties as well as its robustness against language, gender, age and occupation group factors, the LWMS is a measure of workplace mobbing that is particularly attractive for various (large-scale) research and applied contexts. Hence, to aid research and applied purposes that might profit from normative comparisons whole-sample percentile norms are reported in the Appendix.

3.9. References

Agervold, M. (2007). Bullying at Work: A discussion of definitions and prevalence, based on an empirical study. *Scandinavian Journal of Psychology, 48,* 161–172. Doi: 10.1111/j.1467-9450.2007.00585.x

Aquino, K., & Thau, S. (2009). Workplace victimization: Aggression from the target's perspective. *Annual Review of Psychology, 60*, 717–741. Doi: 10.1146/annurev.psych.60.110707.163703

Babchishin, K. M., & Helmus, L.-M. (2016). The influence of base rates on correlations: An evaluation of proposed alternative effect sizes with real-world data. *Behavior Research Methods, 48*, 1021–1031. Doi: 10.3758/s13428-015-0627-7

Bowling, N. A., & Beehr, T. A. (2006). Workplace harassment from the victim's perspective: a theoretical model and meta-analysis. *Journal of Applied Psychology, 91,* 998–1012. Doi: 10.1037/0021-9010.91.5.998

Breslau, N., Peterson, E. L., Schultz, L. R., Chilcoat, H. D., & Andreski, P. (1998). Major depression and stages of smoking. A longitudinal investigation. *Archives of General Psychiatry, 55*, 161–166. Doi: 10.1001/archpsyc.55.2.161

Byrne, B. M., Shavelson, R. J., & Muthén, B. (1989). Testing for the equivalence of factor covariance and mean structures: The issue of partial measurement invariance. *Psychological Bulletin, 105*, 456–466. Doi: 10.1037//0033-2909.105.3.456

Carpenter, J., & Bithell, J. (2000). Bootstrap confidence intervals: When, which, what? A practical guide for medical statisticians. *Statistics in Medicine, 19*, 1141-1164. Doi: 10.1002/(sici)1097-0258(20000515)19:9<1141::aid-sim479>3.0.co;2-f

Chen, F. F. (2007). Sensitivity of goodness of fit indexes to lack of measurement invariance. *Structural Equation Modeling, 14*, 464-504. Doi: 10.1080/10705510701301834

Cooper, M. L., Frone, M. R., Russell, M., & Mudar, P. (1995). Drinking to regulate positive and negative emotions: a motivational model of alcohol use. *Journal of Personality and Social Psychology, 69*, 990–1005. Doi: 10.1037//0022-3514.69.5.990

Cortina, L. M., & Magley, V. J. (2009). Patterns and profiles of response to incivility in the workplace. *Journal of Occupational Health Psychology, 14*, 272–288. Doi: 10.1037/a0014934

Cronbach, L. J., & Meehl, P. E. (1955). Construct validity in psychological tests. *Psychological Bulletin, 52*, 281–302. Doi: 10.1037/h0040957

Deci, E. L., & Ryan, R. M. (2008). Facilitating optimal motivation and psychological well-being across life's domains. *Canadian Psychology, 49*, 14–23. Doi: 10.1037/0708-5591.49.1.14

DeLong, E. R., DeLong, D. M., & Clarke-Pearson, D. L. (1988). Comparing the areas under two or more correlated receiver operating characteristic curves: a nonparametric approach. *Biometrics, 44*, 837–845. Doi: 10.2307/2531595

Einarsen, S., & Raknes, B. J. (1997). Harassment in the workplace and the victimization of men. *Violence and Victims, 12*, 247–263.

Einarsen, S., & Skogstad, A. (1996). Bullying at work: Epidemiological findings in public and private organizations. *European Journal of Work and Organizational Psychology, 5*, 185–201. Doi: 10.1080/13594329608414854

Einarsen, S., Hoel, H., & Notelaers, G. (2009). Measuring exposure to bullying and harassment at work: Validity, factor structure and psychometric properties of the Negative Acts Questionnaire-Revised. *Work & Stress, 23*, 24–44. Doi: 10.1080/02678370902815673

Fernet, C., Austin, S., Trépanier, S.-G., & Dussault, M. (2013). How do job characteristics contribute to burnout? Exploring the distinct mediating roles of perceived autonomy, competence, and relatedness. *European Journal of Work and Organizational Psychology, 22*, 123–137. Doi: 10.1080/1359432X.2011.632161

Finney, S. J., & DiStefano, C. (2013). Nonnormal and categorial data in structural equation modeling. In G. R. Hancock & R. O. Mueller (Eds.), *Structural equation modeling – a second course. 2. Ed.* (pp. 439–492). Charlotte, NC: Information Age Publishing.

Hansen, A. M., Hogh, A., Persson, R., Karlson, B., Garde A. H., & Ørbæk, P. (2006). Bullying at Work, Health Outcomes, and Physiological Stress Response. *Journal of Psychosomatic Research, 60*, 63-72. Doi: 10.1016/j.jpsychores.2005.06.078

Hansen, A. M., Hogh, A., Garde, A. H., & Persson, R. (2014). Workplace bullying and sleep difficulties: a 2-year follow-up study. *International Archives of Occupational and Environmental Health, 87*, 285–294. Doi: 10.1007/s00420-013-0860-2

Hauge, J. H., Skogstadt, A., & Einarsen, S. (2009). Individual and situational predictors of workplace bullying: Why do perpetrators engage in the bullying of others? *Work & Stress, 23*, 349–358. Doi: 10.1080/02678370903395568

Hauge, J. H., Skogstadt, A., & Einarsen, S. (2010). The relative impact of workplace bullying as a social stressor at work. *Scandinavian Journal of Psychology, 51*, 426–433. Doi: 10.1111/j.1467-9450.2010.00813.x

Hoel, H., Sheehan, M., Cooper, C. L., & Einarsen, S. (2011). Organisational effects of workplace bullying. In S. Einarsen, H. Hoel, D. Zapf, & C. L. Cooper (Eds.), *Bullying and harassment in the workplace. Developments in theory, research, and practice* (2nd ed., pp. 129–148). Boca Raton, FL: CRC Press.

Høgh, A., Mikkelsen, E. G., & Hansen, A. M. (2011). Individual consequences of workplace bullying/mobbing. In S. Einarsen, H. Hoel, D. Zapf, & C. L. Cooper (Eds.), *Bullying and harassment in the workplace. Developments in theory, research, and practice* (2nd ed., pp. 107–128). Boca Raton, FL: CRC Press.

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*, 1–55. Doi: 10.1080/10705519909540118

International Labour Organization (Ed.). (2012). *International standard classification of occupations: ISCO-08. Vol. 1. Structure, group definitions and correspondence tables*. Geneva: International Labour Office.

Kivimäki, M., Head, J., Ferrie, J. E., Shipley, M. J., Brunner, E., Vahtera, J., & Marmot, M.G. (2006). Work stress, weight gain and weight loss: evidence for bidirectional effects of job strain on body mass index in the Whitehall II study. *International Journal of Obesity, 30*, 982–987. Doi: 10.1038/sj.ijo.0803229

Kristensen, T. S., Borritz, M., Villadsen, E., & Christensen, K. B. (2005). The Copenhagen Burnout Inventory: A new tool for the assessment of burnout. *Work & Stress, 19*, 192–207. Doi: 10.1080/02678370500297720

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal and coping*. New York, NY: Springer.

Leymann, H. (1996). *Handanleitung für den LIPT-Fragebogen*. [Leymann Inventory of Psychological Terror]. Tübingen: Deutsche Gellschaft für Verhaltenstherapie Verlag.

Little, T. D. (2013). *Longitudinal structural equation modeling*. New York, NY: Guilford Press.

Little, T. D., Slegers, D. W., & Card, N. A. (2006). A non-arbitrary method of identifying and scaling latent variables in SEM and MACS models. *Structural Equation Modeling, 13*, 59–72. Doi: 10.1207/s15328007sem1301_3

Macht, M. (2008). How emotions affect eating: A five-way model. *Appetite, 50*, 1–11. Doi: 10.1016/j.appet.2007.07.002

Meade, A. W., & Baue, D. J. (2007). Power and precision in confirmatory factor analytic tests of measurement invariance. *Structural Equation Modeling, 14*, 611–635. Doi: 10.1080/10705510701575461

Mikkelsen, E. G., & Einarsen, S. (2001). Bullying in Danish work-life: Prevalence and health correlates. *European Journal of Work and Organizational Psychology, 10*, 393–413. Doi: 10.1080/13594320143000816

Millsap, R. E. (2011). Statistical approaches to measurement invariance. New York: Routledge.

Niedhammer, I., David, S., & Degioanni. S. (2007). Economic activities and occupations at high risk for workplace bullying: Results from a large-scale cross-sectional survey in the general working population in France. *International Archives of Occupational and Environmental Health, 80*, 346–353. Doi: 10.1007/s00420-006-0139-y

Nielsen, M. B., Matthiesen, S. B., & Einarsen, S. (2010). The impact of methodological moderators on prevalence rates of workplace bullying. A meta-analysis. *Journal of Occupational and Organizational Psychology, 83*, 955–979. Doi: 10.1348/096317909X481256

Nielsen, M. B., & Einarsen, S. (2012). Outcomes of exposure to workplace bullying: A meta-analytic review. *Work & Stress, 26,* 309–332. Doi: 10.1080/02678373.2012.734709

Nielsen, M.B., Einarsen S., Notelaers, G., & Nielsen, G.H. (2016). Does exposure to bullying behaviors at the workplace contribute to later suicidal ideation? A three-wave longitudinal study. *Scandinavian Journal of Work, Environment & Health, 42*, 246–250. Doi: 10.5271/sjweh.3554

Ortega, A., Høgh, A., Pejtersen, J. H., & Olsen, O. (2009). Prevalence of workplace bullying and risk groups: a representative population study. *International Archives of Occupational and Environmental Health, 82*, 417–426. Doi: 10.1007/s00420-008-0339-8

Ortega, A., Christensen, K. B., Hogh, A., Rugulies, & Borg, (2011). One-year prospective study on the effect of workplace bullying on long-term sickness absence. *Journal of Nursing Management, 19*, 752–759. Doi: 10.1111/j.1365-2834.2010.01179.x

Ortiz Y., & Samaniego, C. (1995) A test of Steers and Rhodes' Model of employees' absence. In A. González, A. de la Torre & y. J. de Elena (eds.). *Work and Organizational Psychology. Human Resources Management and New Technologies* (pp. 237–246). Salamanca: Eudema.

Parzefall, M.-R., & Salin, D. M. (2010). Perceptions of and reactions to workplace bullying: A social exchange perspective. *Human Relations, 63*, 761–780. Doi: 10.1177/0018726709345043

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*, 879–903. Doi: 10.1037/0021-9010.88.5.879

Quine, L. (1999). Workplace bullying in NHS community trust: staff questionnaire survey. *British Medical Journal, 318, 228–232.* Doi: 10.1136/bmj.318.7178.228

Rice, M. E., & Harris, G. T. (2005). Comparing effect sizes in follow-up studies: ROC area, Cohen's d, and r. *Law and Human Behavior, 29,* 615–620. Doi: 10.1007/s10979-005-6832-7

Richer, S. F., Blanchard, C., & Vallerand, R. J. (2002). A motivational model of work turnover. *Journal of Applied Social Psychology, 32*, 2089–2113. Doi: 10.1111/j.1559-1816.2002.tb02065.x

Richman, J. A., Rospenda, K. M., Flaherty, J. A., & Freels, S. (2001). Workplace harassment, active coping, and alcohol-related outcomes. *Journal of Substance Abuse 13*, 347–366. Doi: 10.1016/s0899-3289(01)00079-7

R Core Team. (2017). *R: A language and environment for statistical computing*. Vienna, Austria: R Foundation for Statistical Computing.

Salin, D. (2003). The significance of gender in the prevalence, forms and perceptions of bullying. *Nordiske Organisasjonsstudier, 5*, 30–50. Retrieved from: http://hdl.handle.net/10227/290

Salin, D., & Hoel, H. (2011). Organisational causes of workplace bullying. In S. Einarsen, H. Hoel, D. Zapf, & C. L. Cooper (Eds.), *Bullying and harassment in the workplace. Developments in theory, research, and practice* (2nd ed., pp. 227–243). Boca Raton, FL: CRC Press.

Salin, D., & Hoel, H. (2013). Workplace bullying as a gendered phenomenon. *Journal of Managerial Psychology, 28*, 235–251. Doi: 10.1108/02683941311321187

Satorra, A., & Bentler, P. M. (2001). A scaled difference chi-square test statistic for moment structure analysis. *Psychometrika, 66,* 507–514. Doi: 10.1007/BF02296192

Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire a cross-national study. *Educational and Psychological Measurement, 66*, 701–716. Doi: 10.1177/0013164405282471

Sischka, P., & Steffgen, G. (2016). *Quality of Work-Index. 2. Forschungsbericht zur Weiterentwicklung des Arbeitsqualitätsindexes in Luxembourg* [2th research report for the enhancement of the quality of work index in Luxembourg]. Working Paper. Luxembourg: Universität Luxemburg.

Simons, S. R., Stark, R. B., & DeMarco, R. F. (2011). A new, four-item instrument to measure workplace bullying. *Research in Nursing & Health, 34,* 132–140. doi: 10.1002/nur.20422

Steenkamp, J.-B. E. M., & Baumgartner, H. (1998). Assessing measurement invariance in cross-national consumer research. *Journal of Consumer Research, 25*, 78–90. Doi: 10.1086/209528

Steers R. M. & Rhodes S. R. (1984) Knowledge and speculation about absenteeism. In P. S. Goodman & R. S. Atkin (eds.). Absenteeism: *New approaches to understanding, measuring and managing absence* (pp. 229–275). San Francisco, CA: Jossey-Bass.

Steinmetz, H. (2013). Analyzing observed composite differences across groups. Is partial measurement invariance enough? *Methodology, 9*, 1–12. Doi: 10.1027/1614-2241/a000049

Steffgen, G., Sischka, P., Schmidt, A. F., Kohl, D., & Happ, C. (2016). The Luxembourg Workplace Mobbing Scale. Psychometric properties of a short instrument in three different languages. *European Journal of Psychological Assessment.* Advance online publication. Doi: 10.1027/1015-5759/a000381

Swets, J. A. (1986). Indices of discrimination or diagnostic accuracy: Their ROCs and implied models. *Psychological Bulletin, 99,* 100–117. Doi: 10.1037//0033-2909.99.1.100

Topp, C. W., Østergaard, S. D., Søndergaard, S., & Bech, P. (2015). The WHO-5 Well-Being Index: A Systematic Review of the Literature. *Psychotherapy and Psychosomatics, 84*, 167–176. Doi: 10.1159/000376585

Trépanier, S.-G., Fernet, C., & Austin, S. (2015). A longitudinal investigation of workplace bullying, basic need satisfaction, and employee functioning. Journal of Occupational Health Psychology, 20, 105–116. Doi: 10.1037/a0037726

Vandenberg, R. J., & Lance, C. E. (2000). A review and synthesis of the measurement invariance literature: Suggestions, practices, and recommendations for organizational research. *Organizational Research Methods, 3*, 4–70. Doi: 10.1177/109442810031002

Van den Broeck, A., Vansteenkiste, M., De Witte, H., & Lens, W. (2008). Explaining the relationships between job characteristics, burnout, and engagement: The role of basic psychological need satisfaction. *Work & Stress, 22*, 277–294. Doi: 10.1080/02678370802393672

Van den Broeck, A., Vansteenkiste, M., De Witte, H., Soenens, B., & Lens, W. (2010). Capturing autonomy, competence, and relatedness at work: Construction and initial validation of the Work-related Basic Need Satisfaction scale. *Journal of Occupational and Organizational Psychology, 83*, 981–1002. Doi: 10.1348/096317909X481382

van de Schoot, R., Lugtig, P., & Hox, J. (2012). A checklist for testing measurement invariance. *European Journal of Developmental Psychology, 9*, 486–492. doi:10.1080/17405629.2012.686740

Van Orden, K. A., Wite, T. K., Cukrowciz, K. C., Braithwaite, S. R., Selby, E. A., & Joiner, T. E., (2010). The interpersonal theory of suicide. *Psychological Review, 117*, 575–600. Doi: 10.1037/a0018697

Widaman, K. F., & Reise, S. P. (1997). Exploring the measurement invariance of psychological instruments: Applications in the substance use domain. In K. J. Bryant, M. Windle, & S. G. West (Eds.), *The science of prevention: Methodological advances from alcohol and substance abuse research* (pp. 281–324). Washington, DC: American Psychological Association.

World Health Organization. Regional Office for Europe (1998) Well-Being measures in primary health care: The DiabCare Project. In *Consensus meeting, Stockholm.*

Zapf, D., Escartín, J., Einarsen, S., Hoel, H., & Vartia, M. (2011). Empirical findings on prevalence and risk groups of bullying in the workplace. In S. Einarsen, H. Hoel, D. Zapf, & C. L. Cooper (Eds.), *Bullying and harassment in the workplace. Developments in theory, research, and practice* (2nd ed., pp. 75–105). Boca Raton, FL: CRC Press.

Zhao, H., Wayne, S. J., Glibkowski, B. C., & Bravo, J. (2007). The impact of psychological contract breach on work-related outcomes: A meta-analysis. *Personnel Psychology, 60*, 647–680. Doi: 10.3724/sp.j.1042.2012.01296

3.10. Appendix

Table 3-5.   *Age groups measurement invariance models: χ^2-difference tests with Bonferroni corrections.*

Model	Model name	Model comparison	$\Delta\chi^2$	Δdf	p	Constraint tenable
Strong invariance model	S					
Only intercept of item 1 freed	PS1	S vs. PS1	8.782	3	.032	Yes
Only intercept of item 2 freed	PS2	S vs. PS2	11.064	3	.011	Yes
Only intercept of item 3 freed	PS3	S vs. PS3	7.187	3	.066	Yes
Only intercept of item 4 freed	PS4	S vs. PS4	3.175	3	.366	Yes
Only intercept of item 5 freed	PS5	S vs. PS5	7.427	3	.059	Yes

Notes. Bonferroni correction = .05/5 = .01.

Table 3-6.   *Percentile norms of the LWMS.*

LWMS score	Percentile rank	LWMS score	Percentile rank
1.00	7%	2.31	83%
1.20	15%	2.40	88%
1.40	30%	2.60	92%
1.60	45%	2.80	95%
1.80	60%	3.00	96%
1.84	61%	3.20	98%
2.00	73%	3.60	99%
2.20	82%	4.60	100%

4. Study 3: Competition and workplace bullying. The moderating role of passive avoidant leadership style.

Sischka, P. E., Schmidt, A. F., & Steffgen, G. (2018). *Competition and Workplace Bullying. The moderating role of passive avoidant leadership style*. Manuscript submitted for publication.

4.1. Abstract

Purpose: The present study aimed to investigate the effect of competition on workplace bullying exposure and perpetration and its hypothesized moderation through passive avoidant leadership style. We hypothesized that competition would have a stronger influence on workplace bullying when supervisors score higher on passive avoidant leadership style.

Design: Data were collected among various employees ($N = 1{,}411$) on Amazon's Mechanical Turk utilizing an online survey. Workplace bullying exposure and perpetration were cross-sectionally assessed via self-labeling and the behavioral methods.

Findings: The results partially corroborated the proposed model. Competition and passive avoidant leadership were predictors of workplace bullying exposure and perpetration (as determined by both assessment methods). Furthermore, passive avoidant leadership moderated the relationship between competition and self-labeled workplace bullying exposure. In case of workplace bullying perpetration, passive avoidant leadership only moderated the relationship between competition and self-labeled workplace bullying perpetration but not the relationship between competition and workplace bullying perpetration assessed with the behavioral method.

Implications: As workplace bullying has various negative consequences for targeted individuals and is costly to organizations, employers should reduce the risk for workplace bullying incidents. This study shows that competition needs to be embedded within a leadership style sensitive to the detection of and taking action against workplace bullying phenomena.

Originality: While other studies have shown separate main effects of competition and passive avoidant leadership, this study elucidates these factors' more complex interplay in workplace bullying. Furthermore, not only workplace bullying exposure but also perpetration is considered here, with the latter being a still under-researched topic.

Keywords: Workplace bullying, victimization, perpetration, competition, passive avoidant leadership, work environment hypothesis

4.2. Introduction

Numerous studies over the last 20 years have shown that exposure to workplace bullying (WB) has negative consequences on victim's health, attitudes, and work-related behavior (e.g., Bowling & Beehr, 2006; Hershcovis & Barling, 2010; Nielsen & Einarsen, 2012). For instance, prolonged exposure to bullying experiences at the workplace decreases the overall job satisfaction (Nielsen & Einarsen, 2012) as well as life satisfaction (Bowling & Beehr, 2006). Moreover, WB victims are more likely to report anxiety, somatization (Hansen, Hogh, Persson, Karlson, Garde, & Orbaek, 2006), sleeping difficulties (Hansen, Hogh, Garde, & Perrson, 2014), and negative changes in mental health in general (e.g., Bowling & Beehr, 2006; Nielsen & Einarsen, 2012). Therefore, it is not surprising that WB victims have higher risks of developing cardiovascular diseases and depression (Kivimäki et al., 2003). However, WB is also related to work-related attitudes and behaviors. Exposure to WB has been shown to decrease organizational commitment, and increase absenteeism and turnover intentions (Nielsen & Einarsen, 2012) as well as actual turnover (Hogh, Hoel, & Caneiro, 2011).

Workplace bullying is defined as a situation where an employee persistently and over a period of time perceives her-/himself to be on the receiving end of negative treatments from people at work (i.e., colleagues, supervisors, subordinates, customers, clients) while finding it difficult to defend against this negative treatments (Einarsen & Skogstad, 1996;). Hereby, WB refers to a broad range of negative acts, which can be subdivided into three bullying subtypes: work-related (withholding information, unreasonable deadlines, opinions ignored), person-oriented (spreading gossip, being shouted at), and social exclusion (being ignored or excluded; Notelaers, Hoel, van der Heijden, & Einarsen, 2018).

In terms of WB assessment, two self-report measurement approaches can be distinguished: (1) the *self-labeling method* asks whether respondents have been exposed to WB either with or without a given definition of WB. (2) The *behavioral experience method* inquires how often certain predefined negative behaviors have been experienced. The most critical drawback of the self-labeling method is the subjective approach as respondents may have different personal thresholds and definitions for labeling themselves as bullying victims (Nielsen, Notelaers, & Einarsen, 2011). Therefore, personality, emotional and cognitive factors, as well as misperceptions can introduce biases that may impair direct interindividual comparisons. Moreover, because labeling oneself as bullying victim is associated with intrapersonal distress, respondents may avoid self-labeling even though their experience corresponds with the formal definition of WB. In contrast, the behavioral experience method is

less amenable to social desirability and does not lead to an artificial either/or outcome, but can differentiate different acts and different degrees of exposure to WB. However, as the behavioral experience method is based on frequencies of negative acts, it does not reveal if the respondent would actually label the behavior as bullying (Nielsen et al., 2011). To elucidate whether assessment methods are differentially associated with WB risk factors, the present research relied on both approaches to assess WB exposure and perpetration.

4.3. Workplace bullying risk factors

Studies on risk factors of WB have mostly been inspired by the 'work environment hypothesis' (e.g., Agervold, 2009) that states that the occurrence of WB can be attributed to a stressful work environment (Baillien, De Cuyper, & De Witte, 2011). Therefore, many studies on WB antecedents investigated work factors that may result in a stressful work environment. Empirically, several risk factors have been identified that can be categorized into the following intertwined factors: Work organization and job design, organizational culture and climate, leadership, reward systems and competition as well as organizational change (Salin & Hoel, 2011). In the present study, we focused on leadership and competition. It has been argued that an organizational climate that is characterized by competition and envy increases WB (Salin, 2003a, 2015; Vartia, 1996). Employees may be tempted to gain a relative advantage over their colleagues through WB (Kohn, 1992; Ng, 2017, Salin, 2003a). This should be especially true, when relevant supervisors exhibit passive avoidant leadership styles. That is, when supervisors are physically in post but fail to carry out their duties (Hoel, Glasø, Hetland, Cooper, & Einarsen, 2010). Indeed, asking the victims about the reasons for their WB exposure a study found that they "felt that envy, a weak superior, competition for tasks or advancement, and competition for the supervisor's favor and approval were the most common reasons for bullying" (Vartia, 1996, p. 203). Therefore, the aim of our study was to test whether competition is a potential risk factor for WB and whether this association depends on individual differences in supervisors' passive avoidant leadership style.

4.4. Competition

Organizations are areas of politics and conflicts (Mintzberg, 1985). Organizational members compete for wages, competences, resources and promotions. Therefore, some form of competition is inherent for most modern (profit) organizations. However, on top of that, management has the potential to further increase competition between employees, for example, by implementing a corresponding reward distribution (e.g., compensation based on relative

rank; Jones, Davis, & Thomas, 2017). The rationale behind the extrinsic implementation of competitiveness between employees is the hope for increased work performance and productivity (Gerhart, Rynes, & Fulmer, 2009). Competition is regarded as an engine that thrives individual effort, because it stimulates individuals to outperform each other (e.g., Sauers & Bass, 1990).

However, competition may not only be the result of an intentionally implemented reward system, but can also be caused by external factors such as, for example, the environment of the organization. If organizations are concerned with organizational change (e.g., cost containment, downsizing or restructuring), this has also important implications for their employees. Downsizing and restructuring can lead to the elimination of one's organizational position, with the consequences of lower job security (Kivimäki et al., 2000) and reduced promotion opportunities (Bozionelos, 2001). This may lead to higher levels of pressure and stress that may boost competition between the "survivors" (Devine, Reay, Stainton, Collins-Nakai, 2003) due to their changing work situations and the resulting negative link to their goal attainment (Deutsch, 1949). Employees seek an outcome that is personally beneficial (e.g., keeping the job, getting a promotion) but is detrimental to the other employee's goals (also keeping the job, getting a promotion; Deutsch, 1949). Indeed, research has found that organizational change is related to hostility (Baron & Neuman, 1996) as well as incidents of WB and that this association is mediated through job insecurity and role conflict (Baillien & De Witte, 2009).

Furthermore, competition is not only a result of the work environment, but simply a fact of life. According to social comparison theory (Festinger, 1954), individuals intrinsically seek to compare themselves with others to affirm their own competence (Garcia et al., 2013). This perspective emphasizes that individuals want to compete with each other under certain conditions (Franken & Brown, 1995). However, of course there may be also individual differences regarding "the enjoyment of interpersonal competition and the desire to win and be better than others" (Spence & Helmreich, 1983, p. 41). Therefore, competitiveness can also be regarded as a trait that varies across individuals (Fletcher, Major, & Davis, 2008). This suggests that at least some form of competition is not due to conditions of the workplace, but is also a result of employees' individual needs.

The benefits of competition at the workplace are widely debated (Fletcher et al., 2008). However, it has been argued that an organizational and/or workgroup climate that is characterized by competition, competitive rewards, and envy may increase disharmony in

coworker relationships that may result in WB (e.g., Kohn, 1992; Salin, 2003a, 2015; Samnani & Singh, 2014; Vartia, 1996). Competition may lead to higher levels of pressure and stress, thus, lowering thresholds for aggression and facilitating WB (Salin, 2003a). Furthermore, Vecchio (2005) showed that a perceived competitive reward structure was linked with feelings of envy and feelings of being envied. These negative feelings could also lead to hostile behavior (Duffy, Scott, Shaw, Tepper, & Aquino, 2012). However, under high competition and a competitive reward structure, the use of bullying behavior does not have to be exclusively a result of stressful events (Samnani & Singh, 2014) and feelings of envy but can also be seen as a form of rational (i.e., functionally adaptive) behavior for several reasons (Ferris, Zinko, Brouer, Buckley, & Harvey, 2007). First, if the reward system is based on relative rank, employees may use bullying behavior to eliminate colleagues that are perceived as 'dangerous' competitors (Samnani & Singh, 2014). By sabotaging their work performance (e.g., through social exclusion from important meetings, withholding important information) the perpetrator may improve his own position (Salin, 2003a). Second, if established productivity norms in working groups exist, and some employees violate them in order to outperform their colleagues, they may use bullying to discipline the high performer (Salin, 2003b). Therefore, bullying might not only be used to climb the carrier ladder but also to keep others from advancing on it (Jensen et al., 2014). In this case, bullying is used as an instrument to try to curtail the competition and the competitive reward structure. Third, if competition is more pronounced between work groups and employees are rewarded based on team performance, bullying can be an instrument to get rid of persons that are considered a burden for the team (Salin, 2003a). Therefore, some authors have regarded bullying as a rent seeking behavior based on a cost-benefit analysis (Kräkel, 1997). While the costs depict the risk of "getting caught", and then getting a reprimand, being dismissed, socially isolated or otherwise punished by colleagues and supervisor (Salin, 2003b), the benefits could be eliminating competitors for target values (e.g., salary increase, promotion, reputation), punish high performers to have to work less, or getting rid of colleagues who are perceived as a burden in order to get collective payments (Jensen et al., 2014). Indeed, some studies have empirically linked competition and competitive reward systems to WB exposure (e.g., Coyne et al., 2003; Salin, 2003a, Salin, 2015) or ostracism (Ng, 2017). Drawing on the theoretical considerations and empirical results, we propose the following hypothesis:

Hypothesis 1: Competition is positively related to WB exposure and perpetration (assessed with behavioral and self-labeling methods).

4.5. Passive avoidant leadership

While investigating the association between leadership and WB the focus has mainly been set on active destructive behavior. There are many studies, that describe the detrimental effects of "petty tyrants" (Ashforth, 1994), abusive supervision (Tepper, 2000) or abusive leadership (Kelloway, Sivanathan, Francis, & Barling, 2004) on employee's health, work attitude, and behavior. More recently, the negative effects of passive avoidant leadership (also called non-leadership or laissez-faire leadership) on WB exposure has been investigated (e.g., Hoel et al., 2010; Hauge, Skogstad, & Einarsen, 2007; Nielsen, 2013; Skogstad, Einarsen, Torsheim, Aasland, & Hetland, 2007). This leadership style is characterized by passive avoidant behavior and absence of leadership, i.e., avoid decision making, delay actions, ignore and abdicate leader responsibilities, not responding to employee problems, lack of monitoring of subordinates, absent when needed, and no or less involvement in important organizational matters (Antonakis, Avolio, & Sivasubramaniam, 2003; Bass & Riggio, 2006; Den Hartog, Van Muijen, & Koopman, 1997). In short, passive avoidant leadership implies "not meeting the legitimate expectations of the subordinates and/or superiors concerned" (Skogstad et al., 2007, p. 81). A passive avoidant leadership style should not be mixed up with a leadership style that allows subordinates to do their work autonomously, but is characterized by denying help and not taking action when it is urgently needed.

Based on a literature review, Kelloway and colleagues (2004, p. 95) argue, "the presence, absence, or intensity of particular stressors may be determined by the quality of leadership in the workplace". Particularly, leadership has been linked to workload and work pace, role stressors (i.e., conflict, ambiguity, inter-role conflict), career concerns (e.g., job security, promotion, and career development), work scheduling, interpersonal relations as well as job content and control (Kelloway et al., 2004). Supervisors with individual differences in passive avoidant leadership style will have an influence on all these potential work stressors. Therefore, several work stressors that acts as mediators between passive avoidant leadership and WB can be hypothesized: For instance, supervisors with this leadership style may be unaware of the amount of work that their employees can manage and thus assign a heavy workload or a high work pace. Furthermore, passive avoidant leaders may not take the time to assure that their employees have a clear role description, resulting in role ambiguity. Moreover, they may assign work that may be in conflict with other demands, resulting in employee's feeling of a role conflict (Kelloway et al., 2004). Indeed, Barling and Frone (2016) found that passive avoidant leadership is linked to all of these work stressors (i.e., role overload, role

conflict, and role ambiguity) resulting in less mental health and lower work attitude. In addition, passive avoidant supervisors may ignore conflicts among their subordinates and thus do not react or intervene adequately to curtail these conflicts (e.g., Namie & Lutgen-Sandvik, 2010). Therefore, passive avoidant leadership style has been clearly linked to a stressful work environment that acts as a breeding ground on which WB bullying can occur (Salin, 2003b). As this form of negative or "destructive" leadership behavior is prevalent, (e.g., 21% of employees in a representative sample of Norwegian workers had experienced some form of passive avoidant leadership in the past 6 months; Aasland, Skogstad, Notelaers, Nielsen, & Einarsen, 2010), more research on the effects of this leadership behavior, particularly on WB is needed. Recent empirical studies have repeatedly linked passive avoidant leadership with WB exposure (Hoel & Cooper, 2000; Hoel, et al., 2010; Nielsen, 2013; Skogstad et al., 2007; Woodrow & Guest, 2017). Notably, passive avoidant leadership style is highly interrelated with an autocratic (Hoel et al., 2010) and tyrannical leadership style (Skogstad, Aasland, Nielsen, Hetland, Matthiesen & Einarsen, 2014). Furthermore, based on analysis of in-depth interviews with individuals involved in cases of bullying (either victim or witness), Woodrow and Guest (2017) categorized management responses to bullying into four management subtypes: Constructive, incomplete, disengaged, and destructive management. While constructive management describes cases where the management was able to stop the bullying behavior, incomplete management describes situation where managers attempted to intervene but were not able to solve an incident of bullying in the eye of the involved individual. The disengaged management represents cases where the manager did not even attempt to intervene in the bullying incident, either because the manager was unable, unprepared, or unwilling. Finally, the destructive management involved managers who were perceived to possess a bullying leadership style or who had been accused of bullying during performance management. The incomplete and the disengaged management can both be described as passive avoidant leadership style that might even prolongs WB episodes. Drawing on theoretical considerations and recent empirical research, we propose the following:

Hypothesis 2: Passive avoidant leadership style is positively related to WB exposure and perpetration (as assessed with behavioral and self-labeling methods).

4.6. Interplay of competition and passive avoidant leadership style

If a supervisor is incapable of leading, decisions are inappropriately left to the group. This leads to a higher degree of freedom of action in the working group. Rules become less

important which may further increase the chance of conflicts and power games. Under a situation of high competition, the supervisor is also responsible that competition does not lead to dysfunctional conflicts (i.e., relationship conflicts; Choi & Cho, 2011), that fairness rules are being applied (Tjosvold et al., 2003) so that no illegitimate behavior is used, and that competition does not promote rivalry, aggressive competition, and hypercompetitiveness that may lead to unethical behavior (Kilduff, Galinksy, Gallo, & Reade, 2016). However, passive avoidant leaders are characterized by not enforcing rules, monitoring subordinates, or manage and intervene in dysfunctional conflicts (e.g., Bass & Riggio, 2006). Furthermore, if bullying is regarded as rent seeking behavior based on a cost-benefit analysis (Kräkel, 1997; see section "Competition"), then passive avoidant leadership style lowers the perceived costs of engaging in bullying behavior, because the risk of getting punished by the supervisor is reduced (Salin, 2003b). Accordingly, we hypothesized the following:

Hypothesis 3: The effect of competition on WB exposure and perpetration (assessed with behavioral method and self-labeling) is moderated by passive avoidant leadership style, in that the effect of competition on WB is stronger for higher levels of passive avoidant leadership style.

By testing the proposed model and its associated hypotheses, the present study contributes to the WB literature in two ways. First, while recent research has focused on the main effects of competition (e.g., Salin, 2003) and passive avoidant leadership (e.g., Skogstad et al., 2007) on WB, the present study sheds light on the on the interpersonal boundary conditions of WB in the interplay of employee-perceived situational and personal leadership factors in organizational environments. Second, not only WB exposure but also perpetration is considered which still can be considered an under-researched topic (e.g., Neall & Tuckey, 2014). Therefore, we evaluate the extent to which similar processes underlie WB from the perspective of the target and the perpetrator.

4.7. Method

4.7.1. Participants and procedure

Participants were recruited via Amazon's Mechanical Turk (MTurk), an open online marketplace where individuals from all over the world can register as "workers" to complete Human Intelligence Tasks (HITs) for payment or as "requesters" to offer tasks (Buhrmester, Kwang, & Gosling, 2011). Recently, MTurk has become popular among social scientists as a way to gather survey data, including but not limited to work psychology (van Prooijen & de

Vries, 2016). Advantages of MTurk are quick, easy, and inexpensive access to online survey participants. Furthermore, MTurk offers an opportunity for examining a wider range of occupations (Keith et al., 2017). Importantly, effect size magnitude on various behavioral occupational health-related association are comparable to published benchmarks (e.g., Crump, McDonnell, & Gureckis, 2013; Michel, O'Neill, Hartman, & Lorys, 2017). We followed recent recommendations on using MTurk as participant recruiting system (Keith et al., 2017) and have implemented a prescreening for our desired target population, fair payment (i.e., US$0.10 per estimated minute of participation; Chandler & Shapiro, 2016), and data screening methods for insufficient effort responding (McGonagle, Huang, & Walsh, 2016). The TurkPrime platform (Litman, Robinson, & Abberbock, 2017) was used to manage data collection. For the prescreening, we invited workers, who were employed and resided in the Unites States to complete a 10-item online questionnaire (US$0.10 compensation for participation). Individuals who tried to participate with identical Internet Protocol (IP) addresses were blocked to screen out duplicate applicants. Furthermore, workers country location was verified with an implemented TurkPrime script in order to have only respondents genuinely located in the Unites States. As workers may lie when a prescreening survey is explicitly referenced as such (Chandler & Paolacci, 2017), we introduced it as a demographic survey and did not indicate that it was used as screening tool. In total 4,014 respondents (59.3% females, $n = 2,378$) filled in this prescreening survey. The completion rate (percentage of workers who started and finished a HIT) was considerably high (97.5%), while the bounce rate (percentage of workers who previewed a HIT and did not accept it) was considerably low (9.3%), indicating a rather low level of self-selection (Keith, et al., 2017). Respondent age ranged from 18 to 99 years ($M = 36.7$; $SD = 11.9$). About half of them (50.3%, $n = 2021$) had a university degree (bachelor level or higher). Most of them were of white (78.6%, $n = 3,157$), followed by Afro-American (8.8%, $n = 355$), Asian (6.8%, $n = 272$) or of other ethnicity (5.7%, $n = 230$). Of the respondents, 2,059 (51.3%) were full-time and 427 (10.6%) part-time employed. Those who matched our inclusion criteria (i.e., at least part-time employed and working with supervisor and colleagues; 54.3%, $n = 2,179$) were invited to participate in a survey on working conditions (estimated duration of 12 minutes) in exchange for monetary compensation two weeks later. In total 1,609 participants (73.8%) followed our invitation. Gender, age, and ethnicity had some influence on taking the survey (all other demographics ps > .05): Male workers ($\chi^2 = 10.534$, $df = 1$, $p < .01$, Cramer's $V = .07$), older workers ($t = 5.921$, $df = 2,177$, $p < .001$, $r = .13$), and white, Afro-American, and Asian workers ($\chi^2 = 11.282$, $df = 5$, $p < .05$ Cramer's $V = .07$) were more likely to participate in the survey. However, the effect sizes were rather small, therefore, substantial

bias in terms of a systematic dropout could be ruled out. All participants gave informed consent and were compensated with US$1.20 after survey completion. We opted against a forced answering design as this has been found to be detrimental in terms of data quality (Sischka, Décieux, Mergener, Neufang, & Schmidt, 2018). Workers who indicated that their employment status had changed (e.g., from employment to self-employment, homemaker, student, unemployment or retirement) were filtered out (0.9%; $n = 15$). Furthermore, some respondents were excluded, due to missing data (1.4%, $n = 23$). Median completion time was 11.4 minutes.[47] In order to guarantee data quality, we included two attention check items and implemented four-self report questions about data quality at the end of the questionnaire in order to identify insufficient effort responding inquiring respondents to indicate the frequency of answering questions honestly (reverse-scored), responding without carefully reading the questions, putting thought into survey responses (reverse-scored), and using little effort when selecting answers (DeSimone & Harms, 2017). The response format ranged from 1 (= *totally disagree*) to 7 (= *totally agree*) with higher scores indicating potential insufficient effort responding. Respondents that failed to correctly answer the two instructed response items and/or scored above 3 (= *disagree somewhat*) on the average self-reported data quality items were excluded (10.2%, $n = 160$) from further analysis. Therefore, the effective sample consisted of 1,411 respondents (56.6% females, $n = 798$). Respondent age ranged from 20 to 73 years ($M = 37.3$; $SD = 10.4$). Employees tenure in their organization ranged from less than one year to 51 years ($M = 6.2$; $SD = 6.7$). Most of them had a permanent work contract (87.6%, $n = 1,236$) and no supervisor responsibility (68.0%, $n = 960$). On average respondents worked 39.2 hours per week ($SD = 8.8$).

4.7.2. Measures

Competition. We used the four-item coworker competition scale (Fletcher & Nusbaum, 2010) to assess employees' perceived levels of competition in their working environment. The response format ranged from 1 (= *totally disagree*) to 7 (= *totally agree*). The reliability of the scale was excellent ($\omega = .91$; CI_{95} [.90; .92]). A sample item is "My coworkers are constantly competing with one another".

Passive avoidant leadership style. We assessed passive avoidant leadership style with the five-item scale from Barling & Frone, (2016). The response format ranged from 1 (= *totally disagree*) to 7 (= *totally agree*). A sample item is "My supervisor tends to be unavailable when

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[47] The survey also contained some measures of health and attitudes (see Sischka, Melzer, Schmidt, & Steffgen, 2018).

staff need help with a problem". Again, internal consistency of the scale was high (ω =.90; CI_{95} [.89; .91]).

Workplace bullying exposure. The nine-item Short-Negative Acts Questionnaire (S-NAQ; Notelaers & Einarsen, 2008; Notelaers, Hoel, van der Heijden, & Einarsen, 2018) was used to measure WB exposure (ω = .91; CI_{95} [.91; .92]) with the behavioral experience method. Respondents indicated how frequently they had been exposed to each of the nine negative acts on a scale from 1 (= *never*) to 5 (= *always*). A sample item is "Someone withholding information which affects your performance". We also measured WB with the self-labeling approach using the following definition that was presented to the respondents (see Nielsen et al., 2009, p. 86): "Bullying takes place when one or more persons systematically and over time feel that they have been subjected to negative treatment on the part of one or more persons, in a situation in which the person(s) exposed to the treatment have difficulty in defending themselves against it. It is not bullying when two equally strong opponents are in conflict with each other." The definition was followed by the instructions, 'using the above definition, please state …whether you have been bullied by your supervisor over the last four weeks' and '…whether you have been bullied by your coworkers over the last four weeks' with a response format from 1 (= *never*) to 5 (= *always*). We calculated the mean for these two items two assess self-labeling WB exposure.

Workplace bullying perpetration. WB perpetration was measured by the same nine items of the S-NAQ; however, it was slightly adapted to an active formulation on respondent side (e.g., "withholding information"; see Baillien et al., 2011). Response format ranged from 1 (= *never*) to 5 (= *always*). The reliability of the scale was excellent (ω =.91; CI_{95} [.90; .92]). WB perpetration was also measured with the self-labeling approach. The same definition and response format as for the self-reported WB exposure was used followed by the question, 'using the above definition, please state whether you have bullied others at work over the last four weeks'.

Control variables. We selected control variables based on recent WB research and theoretical reasoning. Empirical evidence for sex (e.g., Hauge, Skogstad, & Einarsen, 2009; De Cuyper et al., 2009; Salin, 2015) and age effects (e.g., Hauge et al., 2009; De Cuyper et al., 2009) on WB exposure is somewhat mixed. Nevertheless, we included them as control variables. Furthermore, studies have shown that job insecurity is related to WB exposure (De Cuyper et al., 2009), therefore, we also included permanent contract status as a control variable. One can also hypothesize that WB is related to length of stay in the current organization, as

duration could be a proxy of being established in the organization. Therefore, one could hypothesize that organizational duration should be negatively linked to exposure and positively linked to perpetration. Additionally, employees that have supervisor responsibility should be more likely to engage in WB perpetration, as their costs of bullying subordinates should be lower. Furthermore, sex and age have both been linked to WB perpetration, i.e., that younger employees and males are more likely to engage in WB perpetration (Baillien et al., 2011; De Cuyper et al., 2009).

4.7.3. Statistical analysis

In order to test the adequacy of the proposed measurement model, we compared different factor models within a maximum likelihood confirmatory factor analysis. We used Satorra-Bentler scaled χ^2 and robust *SE*s (Satorra, & Bentler, 2001) as they provide more accurate parameter estimations for distortion from multivariate normality (Finney & DiStefano, 2013). Furthermore, we employed a parceling technique because our interest focused on the interrelations of the constructs rather than on the exact evaluation of the measurement properties of the constructs (Little, Rhemtulla, Gibson, & Schoemann, 2013). We created parcels of two to three items for all scales by using an item-to-construct balance technique, where the highest loading items were paired with the lowest loading (Little, Cunningham, Shahar, & Widaman, 2002). This resulted in two parcels for the constructs competition and passive avoidant leadership and three parcels for the constructs workplace bullying exposure and workplace bullying perpetration. Next, we examined means, standard deviations, and zero-order correlations between the constructs. Subsequently, we conducted a series of moderated hierarchical regression analysis with (self-labeled) WB exposure and perpetration as outcome variables. For interpretability, all metric variables were z-standardized. Furthermore, we generated interaction plots for ease of interpretation. We calculated R^2 and ΔR^2 as effect size measures of the hypothesized moderation effects. However, it is recognized that R^2 is not an ideal metric for measuring the size of an interaction effect, due to the inevitability of shared variance between the dependent variable, the moderator variable, and the product term of both (Dawson, 2014). Therefore, we also calculated f^2 as this coefficient represents the proportion of systematic variance accounted for by the interaction in relation to the unexplained variance in the outcome variable (Aiken & West, 1991). Finally, in case of overlapping confidence intervals we compared coefficients across models by setting them equal and conducting a Wald-test based comparison between the restricted and the unrestricted model with an asymptotic χ^2 statistic. R version 3.4.2 (R Core Team, 2017) was used for data analysis.

4.8. Results

4.8.1. Factor analysis

Table 4-1 shows the results of the confirmatory factor analysis. It can be seen that the expected four-factor solution fits the data better than a three- (passive avoidant leadership vs. competition vs. workplace bullying exposure and perpetration), two- (passive avoidant leadership and competition vs. workplace bullying exposure and perpetration) or one-factor solution. The chi-square difference test between the three- and four-factor model was significant ($\Delta\chi^2 = 388.10$, $\Delta df = 3$, $p < .001$), suggesting that the four-factor model fit the data better than the three-factor model. Furthermore, in the four-factor model all items had strong standardized factor loadings (between .86 and .95) on their representative constructs (Jackson, Gillasoy, & Purc-Stephenson, 2009). All fit indices indicated good model fit of the four-factor model to the data (Little, 2013).

Table 4-1.   Fit statistics for different measurement models.

Model	χ^2	df	p	RMSEA [90% CI]	SRMR	CFI	TLI
Single factor	4553.069	44	.000	.269 [.264; .275]	.161	.387	.234
Two factors	2543.885	43	.000	.203 [.198; .208]	.158	.660	.565
Three factors	1366.225	41	.000	.151 [.146; .157]	.109	.820	.758
Four factors	123.602	38	.000	.040 [.033; .047]	.019	.988	.983

Notes. *MLM* estimator; *RMSEA* = root mean squared error of approximation; *SRMR* = standardized root mean square residual; *CFI* = comparative fit index; *TLI* = Tucker-Lewis index.

4.8.2. Descriptives and correlational analysis

Table 4-2 shows the means, standard deviations and intercorrelations between the study variables. The means of (self-labeled) WB exposure and perpetration were rather low (ranging from 1.1 to 1.7) pinpointing to a floor effect/variance restriction. In line with our hypotheses, competition was related to (self-labeled) WB exposure and perpetration. Furthermore, passive avoidant leadership was expectedly correlated with (self-labeled) WB exposure and perpetration. Table 2 also shows that the only demographic variables that were significantly related to the dependent variables were sex, age, and supervisor responsibility. Therefore, initial control regression analyses were conducted controlling for these variables. However, due to the small bivariate effects (ranging from -.11 to .12) the inclusion of sex, age, and supervisor responsibility in each model did not alter the findings (standardized coefficients of the crucial independent variables changed between .00 and .01, indicating negligible control variable effects; see Becker, Atinc, Breaugh, Carlson, Edwards, & Spector, 2015). Therefore, for reasons of parsimony these variables were excluded from all further analyses.

Table 4-2.   Means, standard deviations, intercorrelations and CI of intercorrelations.

		M	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1.	Sex[a]	43.4 % male											
2.	Age	37.3	10.3	-.08** [-.13; -.03]									
3.	Organization tenure	6.2	6.7	.04 [-.01; .09]	.42*** [.37; .46]								
4.	Permanent contract[a]	87.6 % per. contract		.01 [-.04; .07]	-.08** [-.13; -.03]	.03 [-.03; .08]							
5.	Supervision responsibility[a]	32 % s. resp.		.11*** [.06; .16]	.07** [.02; .12]	.15*** [.10; .20]	.09*** [.04; .14]						
6.	Competition	3.5	1.5	.08** [.03; .14]	-.05 [-.10; .01]	.00 [-.05; .06]	.04 [-.01; .10]	.12*** [.06; .17]					
7.	Passive avoidant leadership style	3.0	1.5	-.04 [-.09; .01]	-.03 [-.08; .02]	.02 [-.03; .07]	-.03 [-.08; .02]	.05 [-.01; .10]	.23*** [.18; .28]				
8.	Workplace bullying exposure	1.7	0.7	.00 [-.06; .05]	-.07** [-.13; -.02]	.01 [-.04; .06]	.01 [-.04; .06]	.05* [.00; .11]	.38*** [.33; .42]	.49*** [.45; .53]			
9.	Workplace bullying perpetration	1.3	0.5	.07** [.02; .13]	-.10*** [-.15; -.05]	.03 [-.03; .08]	.01 [-.04; .06]	.04 [-.01; .09]	.23*** [.18; .28]	.31*** [.26; .36]	.57*** [.53; .60]		
10.	Self-labeled exposure	1.3	0.6	-.04 [-.09; .01]	-.08** [-.13; -.03]	.01 [-.04; .06]	.01 [-.05; .06]	.04 [-.01; .09]	.25*** [.20; .30]	.36*** [.31; .41]	.68*** [.65; .71]	.44*** [.40; .49]	
11.	Self-labeled perpetration	1.1	0.5	.03 [-.02; .08]	-.11*** [-.16; -.06]	.01 [-.05; .06]	.00 [-.06; .05]	.05* [.00; .11]	.21*** [.16; .26]	.24*** [.19; .28]	.46*** [.42; .50]	.53*** [.49; .57]	.63*** [.59; .66]

Notes. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; [a] higher values depict male gender, permanent contract status, and supervision responsibility, respectively; coefficients display zero-order correlations (r) and CI_{95} in parentheses.

4.8.3. Moderator analyses

Results from the regression analysis for WB exposure and perpetration measured with the *behavioral method* can be found in the upper half of Table 4-3. The predictor and the moderator (Step 1), and the product term (Step 2) were entered into the regression equation in successive order. As can be seen in Step 1, competition as well as passive avoidant leadership style were significant predictors for WB exposure and perpetration. However, the main effects of competition and passive avoidant leadership style were stronger for WB exposure (β =.20; CI_{95} [.17; .23] and β =.30; CI_{95} [.27; .33]) than for perpetration (β =.08; CI_{95} [.06; .11] and β =.14; CI_{95} [.12; .17]) as indicated by the respective non-overlapping confidence intervals. Furthermore, Step 2 shows that passive avoidant leadership moderated the effect of competition on WB exposure (β = .05; CI_{95} [.02; .07]; Figure 4-1) but not for perpetration (β = .01; CI_{95} [-.01; .03]). The relationship between competition and WB exposure was less pronounced for employees who reported low levels of passive avoidant leadership style of their supervisor (Figure 1). However, the relationship between competition and WB perpetration was not affected by level of passive avoidant leadership style of their supervisor (Figure 4-2).

Results from the regression analysis for *self-labeled* WB exposure and perpetration can be found in the lower half of Table 4-3. Step 1 shows that competition as well as passive avoidant leadership style were again significant predictors for WB exposure (β =.11; CI_{95} [.08; .14] and β =.21; CI_{95} [.17; .24]) and perpetration (β =.08; CI_{95} [.05; .10] and β =.09; CI_{95} [.07; .12]) assessed with the self-labeling method. Competition as predictor did not significantly differ between self-labeled WB exposure and perpetration ($\Delta\chi^2$ = 2.60, Δdf = 1, p = .107). Furthermore, compared to the behavioral method, the main effects of competition and passive avoidant leadership style on self-labeled WB exposure were weaker. Regarding perpetration, the strength of competition did not differ ($\Delta\chi^2$ = 0.10, Δdf = 1, p = .758) across assessment method but passive avoidant leadership style was significantly stronger related with perpetration assessed with the behavioral method ($\Delta\chi^2$ = 6.96, Δdf = 1, p = .008). Step 2 shows that passive avoidant leadership moderated the effect of competition on self-labeled WB exposure (β = .06; CI_{95} [.04; .09]) and perpetration (β = .05; CI_{95} [.03; .07]). Similarly, the relationship between competition and self-labeled WB exposure (Figure 4-3) as well as between competition and self-labeled WB perpetration (Figure 4-4) was stronger for employees who reported high levels of passive avoidant leadership style of their supervisor. The moderation effect of passive avoidant leadership style on the effect of competition did not differ between the two assessment methods for WB exposure ($\Delta\chi^2$ = 0.76, Δdf = 1, p = .384). However, the

moderation effect differs across the assessment methods for WB perpetration ($\Delta\chi^2 = 7.19$, $\Delta df = 1$, $p = .007$). The change in explained variance (R^2) for all dependent variables between the models with only main effects compared with the models with main effects and moderation were in the range of 0.1 % to 1.5 % and f^2 ranged between .000 and .015.

4.9. Discussion

Consistent with our theoretical reasoning and prior research, results demonstrate that competition (e.g., Salin, 2003) as well as passive avoidant leadership (e.g., Skogstad et al., 2007) are important and strong risk factors of WB exposure, independent of the assessment method. Moreover, results showed that the same effects showed up for WB perpetration. Even more interesting, for WB exposure (assessed with self-labeling and behavioral method), passive avoidant leadership acted as a moderator on the effect of competition. In line with our expectation, competition is stronger related to WB exposure, when passive avoidant leadership is high. Thus, passive avoidant leadership can be considered a disruptive factor reinforcing the negative association with competition. Regarding WB perpetration, the same moderation effect was only found for the self-labeled assessment method. As the behavioral method should be less affected by social desirability this result is somewhat surprising. An explanation could be that the perpetrators exhibited also some other negative acts, that were not included in the S-NAQ, therefore, considering themselves as perpetrator, but do not score high on the S-NAQ items. An adapted version of the S-NAQ to assess workplace bullying perpetration has often been used (e.g., Baillien et al., 2011), yet a strict validation test remains pending. Nevertheless, as expected, the product term between competition and passive avoidant leadership was also positive in sign for WB perpetration assessed with the behavioral method. The effect sizes of the moderation effects of passive avoidant leadership have to be considered rather small. This may be – at least in partial – due to the floor effect of the WB outcome variables. However, these low means are prototypical and mirror results from recent WB exposure and perpetration research (e.g., Baillien et al., 2011). Furthermore, tests of moderation in field studies have often much less efficiency compared to optimal experimental tests (McClelland & Judd, 1993). Moreover, the magnitude of the moderation effects are in line with typical moderation effects in management research field studies (Dawson, 2014).

Table 4-3.   Hierarchical regression model for workplace bullying exposure and perpetration.

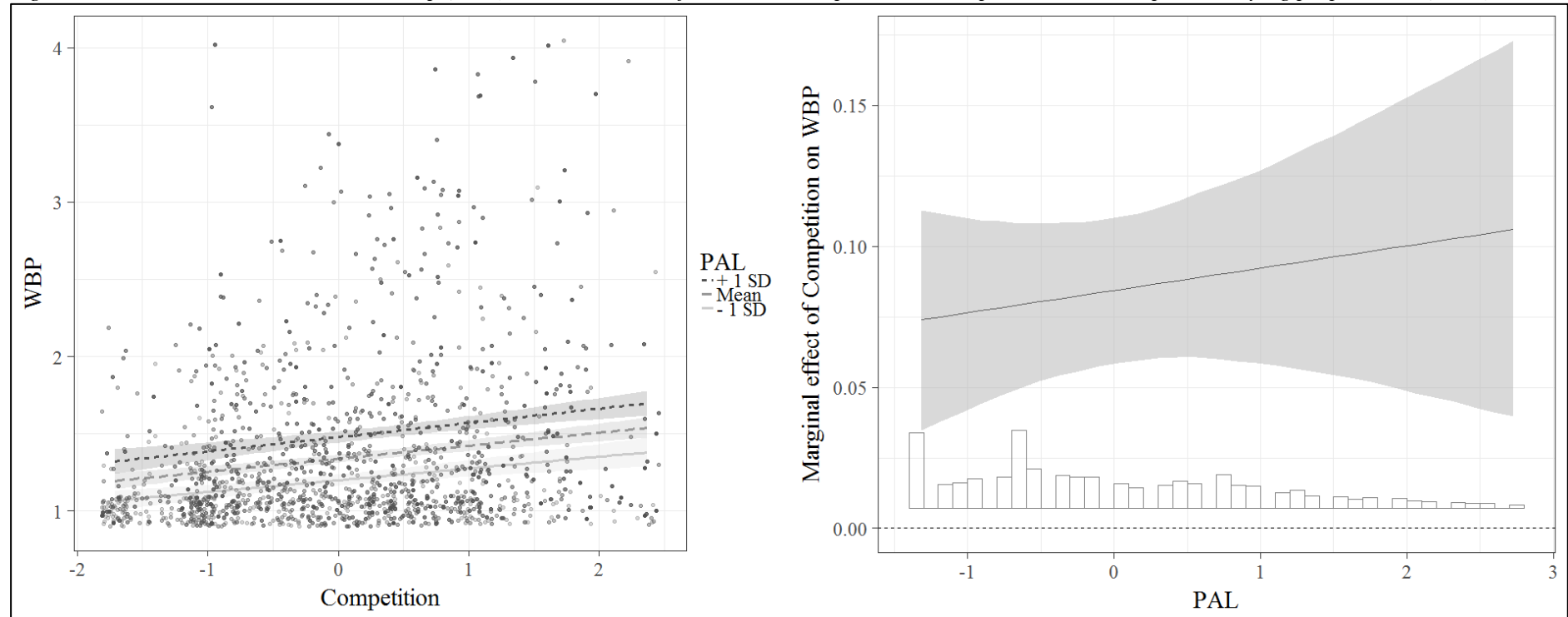|	Workplace bullying exposure (WBE)		Workplace bullying perpetration (WBP)	
	Step 1	Step 2	Step 1	Step 2
Competition	.20*** [.17; .23]	.20*** [.17; .23]	.08*** [.06; .11]	.08*** [.06; .11]
Passive avoidant leadership style	.30*** [.27; .33]	.30*** [.26; .33]	.14*** [.12; .17]	.14*** [.11; .17]
Competition x Passive avoidant leadership style		.05** [.02; .07]		.01 [-.01; .03]
R^2	.309	.315	.123	.124
ΔR^2	.309***	.006**	.123***	.001
f^2		.007		.000
	Self-labeled Workplace bullying exposure (SWBE)		Self-labeled Workplace bullying perpetration (SWBP)	
	Step 1	Step 2	Step 1	Step 2
Competition	.11*** [.08; .14]	.11*** [.08; .14]	.08*** [.05; .10]	.08*** [.06; .10]
Passive avoidant leadership style	.21*** [.17; .24]	.20*** [.16; .23]	.09*** [.07; .12]	.09*** [.06; .11]
Competition x Passive avoidant leadership style		.06*** [.04; .09]		.05*** [.03; .07]
R^2	.159	.171	.081	.096
ΔR^2	.159***	.012***	.081***	.015***
f^2		.015		.016

Notes. Standardized regression coefficients are shown; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; CI$_{95}$ in parentheses.

Figure 4-1. *Passive avoidant leadership (PAL) as a moderator of the relationship between competition and workplace bullying exposure (WBE).*
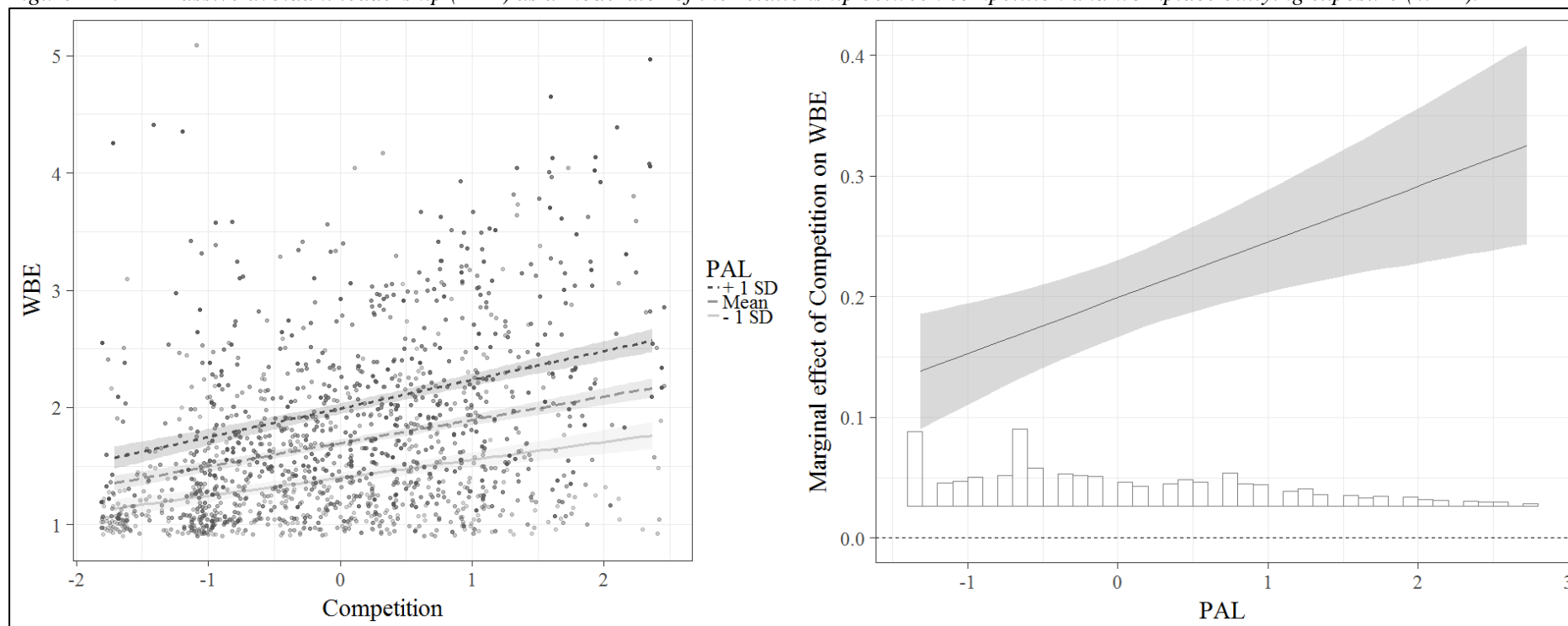
Note. Scatterplot with jitter = .1 to reduce overplotting.

Figure 4-2. *Passive avoidant leadership (PAL) as a moderator of the relationship between competition and workplace bullying perpetration (WBP).*

Note. Scatterplot with jitter = .1 to reduce overplotting.

Figure 4-3. *Passive avoidant leadership (PAL) as a moderator of the relationship between competition and self-labeled workplace bullying exposure (SWBE).*
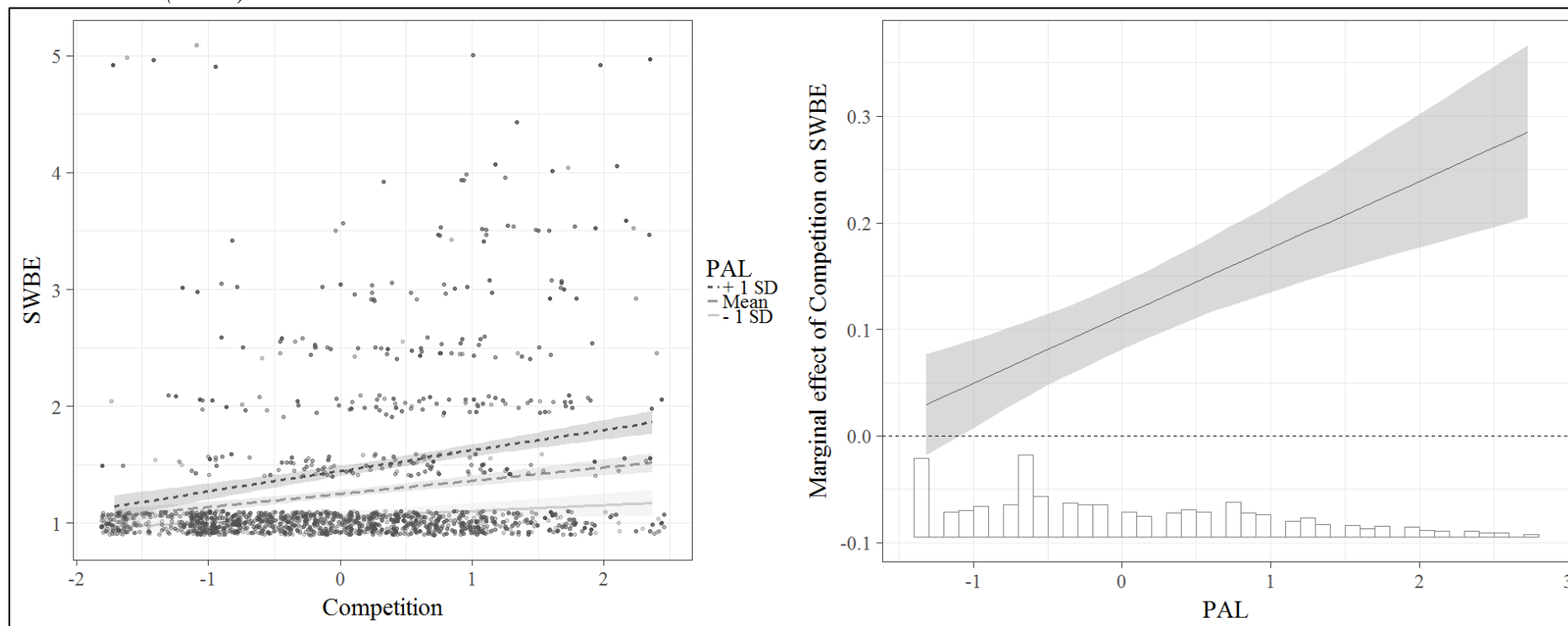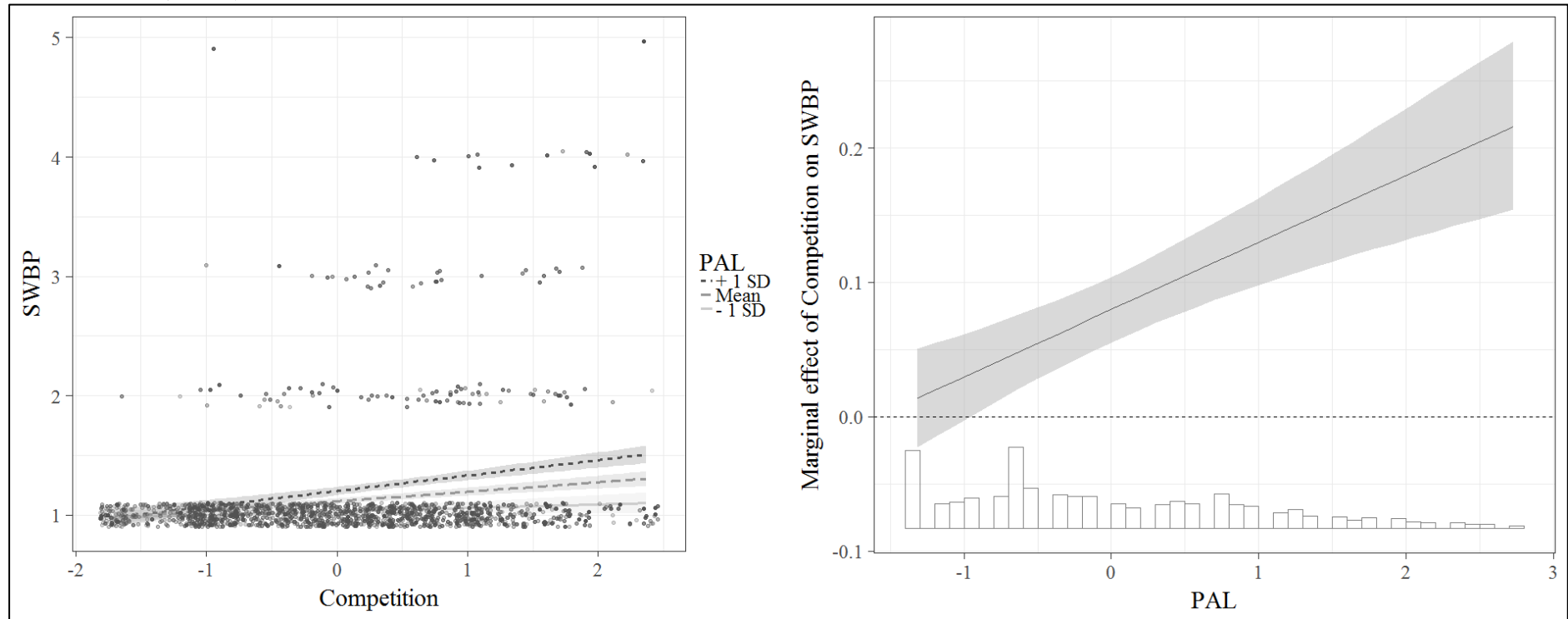

Note. Scatterplot with jitter = .1 to reduce overplotting.

Figure 4-4.   *Passive avoidant leadership (PAL) as a moderator of the relationship between competition and self-labeled workplace bullying perpetration (SWBP).*

Note. Scatterplot with jitter = .1 to reduce overplotting.

4.9.1. Theoretical implications

Recent studies have mainly focused on the main effects of competition, competitive rewards (Salin, 2003, Samnani & Singh, 2014), and passive avoidant leadership (Hoel et al., 2010) on WB. Furthermore, some studies looked at possible mediators between passive avoidant leadership and WB exposure (Skogstad et al., 2007) or between passive avoidant leadership and mental health and job attitudes (Barling & Frone, 2016). The present study further contributed to this literature and showed that passive avoidant leadership could not only unfold negative effects through potentially increasing role conflict, role ambiguity, conflicts, (Skogstad et al., 2007) and role overload (Barling & Frone, 2016) but also because passive avoidant leaders may avoid enforcing rules when competition is in place. As a result, it may be more likely that competition will lead to unfair behavior, promote rivalry, and unethical behavior, with the demonstrated higher level of WB exposure and perpetration as a consequence. This is especially worrisome, in organizational contexts that are characterized by highly interdependent tasks that need a high level of cooperation and coordination among team members (Shaw, Duffy, & Stark, 2000). Furthermore, previous research showed that especially low and high performing employees might be at risk of becoming exposed to workplace bullying (Jensen et al., 2014). One could hypothesize that the association between performance and bullying exposure might be stronger when competition is high and supervisors exhibit a passive avoidant leadership style.

4.9.2. Practical implications

WB exposure has various negative effects on the targeted individual (e.g., depression, impaired mental health in general; Bowling & Beehr, 2006), to the families of the targeted individual (conflicts at home, relationship problems; Rodríguez-Muñoz, Antino, & Sanz-Vergel, 2017), to bystanders of the bullying incidents (e.g., higher turnover intention; Houshmand, O'Reilly, Robinson, & Wolff, 2012), to perpetrators (e.g., risk of becoming a victim; Hauge, Skogstad, & Einarsen, 2009), and to the organization as a whole (e.g., higher levels of sickness absenteeism, higher turnover intention; Nielsen & Einarsen, 2012). Therefore, it is not surprising that the occurrence of WB results in large costs on the individual-, organizational- and societal-level (Hassard, Teoh, Visockaite, Dewe, & Cox, 2017). Thus, organizations are urgently advised to take effective countermeasures to prevent WB incidents. The present study provides insight into the interplay of competition and passive avoidant leadership in affecting the occurrence of (self-perceived) WB, and therefore, can inform possible intervention strategies. According to these results, organizations can reduce WB

exposure and perpetration by reducing a) competition between employees and/or b) by training their supervisor to replace passive avoidant leadership behavior with more functional leadership strategies (in such specific work environments).

Although under certain conditions competition can have positive effects and can enhance employee's performance for instance when applying for promotion (Franken & Brown, 1995) one should distinguish between positive and negative adaptive behavior in a competitive situation. Positive adaptive behavior could be additional effort, to increase one's performance (Sauers & Bass, 1990). Negative or counterproductive (work) adaptive behavior could manifest itself in keeping knowledge, being calculating, selfish and greedy, thwart others (Kirby & Ross, 2007, Kirby et al., 2010) or try to bully them. Employing a person-environment fit perspective, one could hypothesize that the kind of adaptive behavior that is used depends on employee's needs and personality as well as on the leadership behavior. Supervisor can apply fairness rules and act as role models for their subordinates ensuring that detrimental competition in the workplace is effectively harnessed (Lopez, Sayer, & Cleary, 2017). By this, the supervisor can foster a healthy form of competition that should enhance motivation, enthusiasm, creativity and performance (Murayama & Elliot, 2012). However, if the supervisor fails to create these positive boundary conditions employees scoring high on trait competitiveness (Fletcher et al., 2008), Machiavellianism, narcissism, or psychoticism (Linton & Power, 2013) might be more likely to show negative adaptive behavior under high competitive situation. Therefore, organizations are advised to train their supervisors (Kelloway & Barling, 2010) to reduce or abandon passive avoidant leadership behavior with the additional advantage to also reduce other risk factors of WB such as role conflict, role ambiguity, and conflicts with colleagues, that are related to WB and that can be a result of a passive avoidant leadership style (Skogstad et al., 2007). Instead, organizations should train their supervisors to practice more constructive leadership styles, such as authentic (Laschinger & Fida, 2014), or ethical (Stouten et al., 2010) leadership style that already have been linked to lower level of WB. These leadership styles are characterized by ethical role modeling (i.e., being honest, trustworthy, fair, principled and transparent in decision making), perspective taking and making ethics an explicit part of his/her leadership agenda. Therefore, these leadership styles enhance subordinates' moral reasoning and increase their prosocial behavior. One can hypothesize that these leadership styles may attenuate the association between competition and the occurrence of WB.

The current study points to the necessity that WB intervention strategies have to target not only the individual/dyadic but also the group and organization levels (Saam, 2010) to be effective. We therefore second recent skepticism (Saam, 2010) that mediation as only intervention strategy might be sufficient to remediate the whole WB problem as it only focus on the victim/perpetrator dyadic and ignores problems that arise from the group and organization levels. Therefore, when mediation is employed it should be combined with coaching (of supervisors) and/or organizational development (eliminate WB enabling structure) should also be employed (Saam, 2010).

4.9.3. Limitations and outlook

Whereas the present study contributes to our understanding of the effects of competition between colleagues and supervisors leadership style on the occurrence of WB, some limitations of the present study should be considered that provide directions for future research. First, although it might be tempting to interpret the results of the moderation analysis in a causal manner, this should be regarded with caution due to the cross-sectional design of the study. For instance, it is also possible that employees being exposed to negative behaviors from colleagues or supervisor will perceive their work environment as more competitive and the supervisor as more passive avoidant. Note, however, that the tested model is consistent with previous theorizing (e.g., Salin, 2003a,b; Samnani & Singh, 2014) and with empirical results of longitudinal studies on WB exposure and passive avoidant leadership (e.g., Glambek, Skogstad, & Einarsen, 2018) and experimental studies on competitive framing and aggression (e.g., Anderson & Morrow, 1995). Nevertheless, future research might implement a longitudinal or experimental design that could identify a causal order among the variables under study and confirm the postulated directedness of the moderation model.

Second, the mono-method design further limits the generalizability, as only self-reported measures were employed (that cannot be interpreted as objective indicators of leadership behavior and working environment characteristics). This can lead to an overrating of the present effects in the sense of common method bias (Podsakoff, MacKenzie, & Podsakoff, 2012). However, Conway and Lance (2010) state that under certain conditions, self-reports can be acceptable or even necessary: There should be evidence of construct validity, lack of overlap in items for different constructs, and one should account for common method bias (Conway & Lance, 2010). Confirmatory factor analyses revealed that the proposed four-factor model showed a good fit to the data, while the competing models, including the single-factor measurement model did not fit the data indicating construct validity and a lack of a high

amount of item overlapping. These results suggest that respondents conceptually distinguished between these constructs. Furthermore, the correlations between the study variables were very similar compared to previous studies, e.g., between laissez-faire leadership style and self-labeled WB exposure (Hoel et al., 2010), between laissez-faire leadership style and (behavioral method of) WB exposure (Hauge et al., 2007; Skogstad et al., 2007). Reports of workplace bullying exposure and perpetration may be prone to effects of social desirability. However, we did not only include self-labeling measures but also reports of specific behavior that were placed before the self-labeling items. Furthermore, we also ensured confidentiality of the respondents to reduce evaluation apprehension and the fear of retaliation for the reporting of aggressive acts. This procedure might have reduce the social desirability bias. Last but not least, research on common method bias has indicated that its occurrence is not likely to result in spurious findings of an interaction effect but may make interaction effects even more difficult to detect because of reduced statistical power (Siemsen, Roth, & Oliveira, 2010). Nevertheless, future research might utilize multiple data sources to provide insight into inter-rater reliability and therefore to come to more objective data.

Third, one could criticize that MTurk is only a convenience sample, therefore lacking generalizability. MTurk workers might be regarded as less representative of the population of interest, because they are all internet users, which differ on many variables from the general population (Paolacci & Chandler, 2014). Indeed, MTurk workers tend to be younger, better educated, more liberal, and less religious compared to nationally representative U.S. samples (Berinsky et al., 2012). However, as our results and recent studies (e.g., Quine, 1999) indicate, neither age nor education plays a crucial role in the occurrence of workplace bullying exposure and perpetration. Moreover, there is no indication that this may be true for political orientation or religiousness. Furthermore, as Landers and Behrend (2015) pointed out, this lack of representativeness is not limited to MTurk samples, but also a common concern in other convenience sampling methods used in organizational psychology studies, including organizational samples. Compared to other convenient sampling strategy MTurk provides the advantage to gain easy access to a more heterogeneous employment population making results not restricted to only one type of industry or organization (Michel et al., 2017). This makes MTurk ideal for testing organizational theories expected to be broadly applicable across different organizational settings (Cheung et al., 2017) as it is the case for this study. Furthermore, as we followed recent recommendations using MTurk as participant recruiting

system (Keith et al., 2017), we are confident about the validity of our results. Nevertheless, future studies should replicate the proposed model in other populations with other samples.

4.9.4. Conclusion

The present study addresses a gap in the literature that so far did not consider interaction effects of competition and passive avoidant leadership on WB exposure and perpetration. The study findings advance the field of WB through highlighting passive avoidant leadership as an important boundary condition for the effects of competition. Our study echoes calls for more research on passive avoidant leadership (Skogstad et al., 2007), a prevalent form of negative leadership style. Finally, an important practical implication is that when organizations seek out positive effects of competition and aim to increase employees' effort by stimulating them to outperform each other, they are advised to train their managers to abandon passive avoidant leadership behavior. Possibly, authentic or ethical leadership styles might enhance subordinates' moral reasoning and increase their prosocial behavior. However, this calls for more research that will shed light on these yet open empirical questions.

4.10. References

Aasland, M. S., Skogstad, A., Notelaers, G., Nielsen, M. B., & Einarsen, S. (2010). The prevalence of destructive leadership behaviour. *British Journal of Management, 21*, 438–452. Doi: 10.1111/j.1467-8551.2009.00672.x

Agervold, M. (2009). The significance of organizational factors for the incidence of bullying. *Scandinavian Journal of Psychology*, *50*, 267–276. Doi: 10.1111/j.1467-9450.2009.00710.x

Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Thousand Oaks, California: Sage.

Anderson, C. A., & Morrow, M. (1995). Competitive aggression without interaction: Effects of competitive versus cooperative instructions on aggressive behavior in video games. *Personality and Social Psychology Bulletin*, *21*, 1020–1030. Doi: 10.1177/014616729521110003

Antonakis, J., Avolio, B. J., & Sivasubramaniam, N. (2003). Context and leadership: an examination of the nine-factor full-range leadership theory using the Multifactor Leadership Questionnaire. *Leadership Quarterly, 14*, 261–295. Doi: 10.1016/S1048-9843(03)00030-4

Ashforth, B. (1994). Petty tyranny in organizations. *Human Relations, 47*, 755–778. Doi: 10.1177/001872679404700701

Baillien, E., & De Witte, H. (2009). Why is organizational change related to workplace bullying? Role conflict and job insecurity as mediators. *Economic and Industrial Democracy, 30*, 348–371. Doi: 10.1177/0143831x09336557

Baillien, E., De Cuyper, N., & De Witte, H. (2011). Job autonomy and workload as antecedents of workplace bullying: A two-wave test of Karasek's Job Demand Control Model for targets and perpetrators. *Journal of Occupational and Organizational Psychology, 84*, 191–208. Doi: 10.1348/096317910X508371

Barling, J., & Frone, M. R. (2016). If only my leader would just do something! Passive leadership undermines employee well-being through role stressors and psychological resource depletion. *Stress & Health, 33*, 211–222. Doi: 10.1002/smi.2697

Baron, R. A., & Neuman, J. H. (1996). Workplace violence and workplace aggression: Evidence on their relative frequency and potential causes. *Aggressive Behavior*, *22*, 161–173.

Bass, B.M., & Riggio, R.E. (2006). *Transformational leadership* (2nd ed.). Mahwah, NJ: Lawrence Erlbaum.

Becker, T. E., Atinc, G., Breaugh, J. A., Carlson, K. D., Edwards, J. R., & Spector, P. E. (2015). Statistical control in correlational studies: 10 essential recommendations for organizational researchers. *Journal of Organizational Behavior*, *37*, 157–167. Doi: 10.1002/job.2053

Berinsky, A. J., Huber, G. A., & Lenz, G. S. (2012). Evaluating online labor markets for experimental research: Amazon.com's Mechanical Turk. *Political Analysis, 20*, 351–368. Doi: 10.1093/pan/mpr057

Bowling, N. A., & Beehr, T. A. (2006). Workplace harassment from the victim's perspective: a theoretical model and meta-analysis. *Journal of Applied Psychology, 91,* 998–1012. Doi: 10.1037/0021-9010.91.5.998

Bozionelos, N. (2001). Organizational downsizing and career development. *Career Development International, 6*, 87-92. doi: 10.1108/13620430110383393

Buhrmester, M., Kwang, T., & Gosling, S. D. (2011). Amazon's Mechanical Turk: A new source of inexpensive, yet high-quality, data? *Perspectives on Psychological Science, 6*, 3–5. Doi: 10.1177/1745691610393980

Chandler, J. J., & Paolacci, G. (2017). Lie for a dime: When most prescreening responses are honest but most study participants are impostors. *Social Psychological and Personality Science, 8*, 500–508. Doi: 10.1177/1948550617698203

Chandler, J., & Shapiro, D. (2016). Conducting clinical research using crowdsourced convenience samples. *Annual Review of Clinical Psychology, 12*, 53–81. Doi: 10.1146/annurev-clinpsy-021815-093623

Cheung, J. H., Burns, D. K., Sinclair, R. R., & Sliter, M. (2017). Amazon Mechanical Turk in organizational psychology: An evaluation and practical recommendations. *Journal of Business and Psychology, 32*, 347–361. Doi: 10.1007/s10869-016-9458-5

Choi, K., & Cho, B. (2011). Competing hypotheses analyses of the associations between group task conflict and group relationship conflict. *Journal of Organizational Behavior, 32*, 1106–1126. Doi: 10.1002/job.733

Conway, J. M., & Lance, C. E. (2010). What reviewers should expect from authors regarding common method bias in organizational research. *Journal of Business and Psychology, 29*, 325–334. Doi: 10.1007/s10869-010-9181-6

Coyne, I., Smith-Lee Chong, P., Seigne, E., & Randall, P. (2003). Self and peer nominations of bullying: An analysis of incident rates, individual differences, and perceptions of the working environment. *European Journal of Work and Organizational Psychology*, *12*, 209–228. Doi: 10.1080/13594320344000101

Crump, M. J. C., McDonnell, J. V., & Gureckis, T. M. (2013). Evaluating Amazon's Mechanical Turk as a tool for experimental behavioral research. *PloS one, 8*, e57410. Doi: 10.1371/journal.pone.0057410

Dawson, J. F. (2014). Moderation in management research: What, why, when, and how. *Journal of Business and Psychology, 29*, 1–19. Doi: 10.1007/s10869-013-9308-7

De Cuyper, N., Baillien, E., & De Witte, H. (2009). Job insecurity, perceived employability and targets' and perpetrators' experiences of workplace bullying. *Work & Stress, 23*, 206–224. Doi: 10.1080/02678370903257578

Den Hartog, D. N., Van Muijen, J. J., & Koopman, P. L. (1997). Transactional versus transformational leadership: An analysis of the MLQ. *Journal of Occupational and Organizational Psychology, 70*, 19–34. Doi: 10.1111/j.2044-8325.1997.tb00628.x

DeSimone, J. A., & Harms, P. D. (2017). Dirty Data: The Effects of Screening Respondents Who Provide Low-Quality Data in Survey Research. *Journal of Business and Psychology*. Advanced online publication. Doi: 10.1007/s10869-017-9514-9

Deutsch, M. (1949). An experimental study of the effects of co-operation and competition upon group process. *Human Relations*, *2*, 199-231.

Devine, K., Reay, T., Stainton, L., & Collins-Nakai, R. (2003). Downsizing outcomes: Better a victim than a survivor? *Human Resource Management, 42*, 109–124. Doi: 10.1002/hrm.10071

Duffy, M. K., Scott, K. L., Shaw, J. D., Tepper, B. J., & Aquino, K. (2012). A social context model of envy and social undermining. *Academy of Management Journal*, *55*, 643–666. Doi: 10.5465/amj.2009.0804

Einarsen, S., & Skogstad (1996). Bullying at work: Epidemiological findings in public and private organizations. *European Journal of Work and Organizational Psychology, 5*, 185–201. Doi: 10.1080/13594329608414854

Ferris, G. R., Zinko, R., Brouer, R. L., Buckley, M. R., & Harvey, M. G. (2007). Strategic bullying as a supplementary, balanced perspective on destructive leadership. *Leadership Quarterly, 18*, 195–206. Doi: 10.1016/j.leaqua.2007.03.004

Festinger, L. (1954). A theory of social comparison processes. *Human Relations, 1*, 117–140.

Finney, S. J., & DiStefano, C. (2013). Nonnormal and categorial data in structural equation modeling. In G. R. Hancock & R. O. Mueller (Eds.), *Structural equation modeling – a second course* (2ᵗʰ ed.; pp. 439–492). Charlotte, NC: Information Age Publishing.

Fletcher, T. D., Major, D. A., & Davis, D. D. (2008). The interactive relationship of competitive climate and trait competitiveness with workplace attitudes, stress, and performance. *Journal of Organizational Behavior, 29*, 899–922. Doi: 10.1002/job.503

Fletcher, T. D., & Nusbaum, D. N. (2010). Development of the Competitive Work Environment Scale: A multidimensional climate construct. *Educational and Psychological Measurement, 70*, 105–124. Doi: 10.1177/0013164409344492

Franken, R. E., & Brown, D. J. (1995). Why do people like competition? The motivation for winning, putting forth effort, improving one's performance, performing well, being instrumental, and expressing forceful/aggressive behavior. *Personality and Individual Differences*, *19*, 175-184. Doi: 10.1016/0191-8869(95)00035-5

Garcia, S. M., Tor, A., Schiff, T. M. (2013). The psychology of competition: A social comparison perspective. *Perspectives on Psychological Science, 8*, 634–650. Doi: 10.1177/1745691613504114

Gerhart, B., Rynes, S. L., & Fulmer, I. S. (2009). Pay and performance: individuals, groups, and executives. *Academy of Management Annals*, *3*, 251–315. Doi: 10.1080/19416520903047269

Glambek, M., Skogstad, A., & Einarsen, S. (2018). Workplace bullying, the development of job insecurity and the role of laissez-faire leadership: A two-wave moderated mediation

study. *Work & Stress*. Advanced online publication. Doi: 10.1080/02678373.2018.1427815

Hansen, A. M., Hogh, A., Persson, R., Karlson, B., Garde A. H., & Ørbæk, P. (2006). Bullying at Work, Health Outcomes, and Physiological Stress Response. *Journal of Psychosomatic Research, 60*, 63–72. Doi: 10.1016/j.jpsychores.2005.06.078

Hansen, A. M., Hogh, A., Garde, A. H., & Persson, R. (2014). Workplace bullying and sleep difficulties: a 2-year follow-up study. *International Archives of Occupational and Environmental Health, 87*, 285–294. Doi: 10.1007/s00420-013-0860-2

Hassard, J., Teoh, K. R. H., Visockaite, G., Dewe, P., & Cox, T. (2017). The financial burden of psychosocial workplace aggression: A systematic review of cost-of-illness studies. *Work & Stress*. Advanced online publication. Doi: 10.1080/02678373.2017.1380726

Hauge, L. J., Skogstad, A., & Einarsen, S. (2007). Relationships between stressful work environments and bullying: Results of a large representative study. *Work & Stress, 21*, 220–242. Doi: 10.1080/02678370701705810

Hauge, L. J., Skogstad, A., & Einarsen, S. (2009). Individual and situational predictors of workplace bullying: Why do perpetrators engage in the bullying of others? *Work & Stress, 23*, 349–358. Doi: 10.1080/02678370903395568

Hershcovis, M. S., & Barling, J. (2010). Towards a multi-foci approach to workplace aggression: A meta-analytic review of outcomes from different perpetrators. *Journal of Organizational Behavior, 31*, 24–44. Doi: 10.1037/0021-9010.92.1.228

Hoel, H., & Cooper, C. L. (2000). *Destructive conflict and bullying at work*. Manchester: University of Manchester Institute of Science and Psychology (UMIST).

Hoel, H., Glasø, L., Hetland, J., Cooper, C. L., & Einarsen, S. (2010). Leadership styles as predictors of self-reported and observed workplace bullying. *British Journal of Management, 21*, 453–468. Doi: 10.1111/j.1467-8551.2009.00664.x

Hogh, A., Hoel, H., & Caneiro, I. G. (2011). Bullying and employee turnover among healthcare workers: a three-wave prospective study. *Journal of Nursing Management, 19*, 742–751. Doi: 10.1111/j.1365-2834.2011.01264.x

Houshmand, M., O'Reilly, J., Robinson, S., & Wolff, A. (2012). Escaping bullying: The simultaneous impact of individual and unit-level bullying on turnover intentions. *Human Relations, 65*, 901–918. Doi: 10.1177/0018726712445100

Jackson, D. L., Gillaspy, J. A., & Purc-Stephenson, R. (2009). Reporting practices in confirmatory factor analysis: An overview and some recommendations. *Psychological Methods, 14*, 6–23. Doi: 10.1037/a0014694

Jensen, J. M., Patel, P. C., & Raver, J. L. (2014). Is it better to be average? High and low performance as predictors of employee victimization. *Journal of Applied Psychology, 99*, 296-309. Doi: 10.1037/a0034822

Jones, J. L., Davis, W. D., & Thomas, C. H. (2017). Is competition engaging? Examining the interactive effects of goal orientation and competitive work environment on engagement. *Human Resource Management, 56*, 389–405. Doi: 10.1002/hrm.21773

Keith, M. G., Tay, L., & Harms, P. D. (2017). Systems perspective of Amazon Mechanical Turk for organizational research: Review and recommendations. *Frontiers in Psychology, 8*, 1359. Doi: 10.3389/fpsyg.2017.01359

Kelloway, E. K., Sivanathan, N., Francis, L., & Barling, J. (2004). Poor leadership. In J. Barling, E. K. Kelloway, & M. R. Frone (Eds.). *Handbook of work stress* (pp. 89–112). Thousand Oaks: Sage publications.

Kelloway, E. K., & Barling, J. (2010). Leadership development as an intervention in occupational health psychology. *Work & Stress*, *24*, 260–279. Doi: 10.1080/02678373.2010.518441

Kilduff, G. J., Galinksy, A. D., Gallo, E., & Reade, J. J. (2016). Whatever it takes to win: Rivalry increases unethical behavior. *Academy of Management Journal, 59*, 1508–1534. Doi: 10.5465/amj.2014.0545

Kirby, E. G., Kirby, S. L., Bell, J. D., & Schafer, C. (2010). Exploring the factors affecting the use of kiasu tactics. *Journal of Behavioral and Applied Management, 11*, 249-262.

Kirby, E. G., & Ross, J. K. (2007). Kiasu tendency and tactics: A study of their impact on task performance. *Journal of Behavioral and Applied Management*, *8*, 108-121.

Kivimäki, M., Vahtera, J., Pentti, J., & Ferrie, J. E. (2000). Factors underlying the effect of organisational downsizing on health of employees: longitudinal cohort study. *BMJ, 320*, 971-975. Doi: 10.1136/bmj.320.7240.971

Kivimäki, M., Virtanen, M., Vartia, M., Elovainio, M., Vahtera, J., & Keltikangas-Järvinen, L. (2003). Workplace bullying and the risk of cardiovascular disease and depression. *Occupational and Environmental Medicine, 60*, 779–783. Doi: 10.1136/oem.60.10.779

Kohn, A. (1992). *No contest: The case against competition*. Boston: Houghton-Mifflin.

Kräkel, M. (1997). Rent-seeking in Organisationen – eine ökonomische Analyse sozial schädlichen Verhaltens [Rent-seeking in organizations – An economic analysis of socially harmful behavior]. *Schmalenbachs Zeitschrift für betriebswirtschaftliche Forschung, 49*, 535–555.

Landers, R. N., & Behrend, T. S. (2015). An inconvenient truth: Arbitrary distinctions between organizational, Mechanical Turk, and other convenience samples. *Industrial and Organizational Psychology, 8*, 142–164. Doi: 0.1017/iop.2015.13

Laschinger, H. K. S., & Fida, R. (2014). A time-lagged analysis of the effect of authentic leadership on workplace bullying, burnout, and occupational turnover intentions. *European Journal of Work and Organizational Psychology, 23*, 739–753. Doi: 10.1080/1359432X.2013.804646

Linton, D. K., & Power, J. L. (2013). The personality traits of workplace bullies are often shared by their victims: Is there a dark side to victims? *Personality and Individual Differences, 54*, 738–743. Doi: 10.1016/j.paid.2012.11.026

Little, T. D. (2013). *Longitudinal structural equation modeling*. New York, NY: Guilford Press.

Little, T. D., Cunningham, W. A., Shahar, G., & Widaman, K. F. (2002). To parcel or not to parcel: Exploring the question, weighing the merits. *Structural Equation Modeling, 9*, 151–173. Doi: 10.1037/a0033266

Little, T. D., Rhemtulla, M., Gibson, K., & Schoemann, A. M. (2013). Why the items versus parcels controversy needn't be one. *Psychological Methods, 18*. 285–300. Doi: 10.1037/a0033266

Litman, L., Robinson, J., & Abberbock, T. (2017). TurkPrime.com: A versatile crowdsourcing data acquisition platform for the behavioral sciences. *Behavior Research Methods*, *49*, 433–442. Doi: 10.3758/s13428-016-0727-z

Lopez, V., Sayers, J. M., & Cleary, M. (2017). Competitiveness in the workplace: Attributes and team benefits. *Issues in Mental Health Nursing*, *38*, 523-525. Doi: 10.1080/01612840.2017.1322430

McGonagle, A. K., Huang, J. L., & Walsh, B. M. (2016). Insufficient effort survey responding: An under-appreciated problem in work and organisational health psychology research. *Applied Psychology, 65*, 287–321. Doi: 10.1111/apps.12058

Michel, J. S., O'Neill, S. K., Hartman, P., & Lorys, A. (2017). Amazon's Mechanical Turk as a Viable Source for Organizational and Occupational Health Research. *Occupational Health Science*. Advanced online publication. Doi: 10.1007/s41542-017-0009-x

Mintzberg, H. (1985). The organization as political arena. *Journal of Management Studies, 22*, 133–154. Doi: 10.1111/j.1467-6486.1985.tb00069.x

Murayama, K., & Elliot, A. J. (2012). The competition–performance relation: A meta-analytic review and test of the opposing processes model of competition and performance. *Psychological Bulletin, 138*, 1035–1070. Doi: 10.1037/a0028324

Namie, G., & Lutgen-Sandvik, P. E. (2010). Active and passive accomplices: The communal character of workplace bullying. *International Journal of Communication, 4*, 343–373.

Neall, A. M., & Tuckey, M. R. (2014). A methodological review of research on the antecedents and consequences of workplace harassment. *Journal of Occupational and Organizational Psychology*, *87*, 225–257. Doi: 10.1111/joop.12059

Ng, T. W. H. (2017). Can idiosyncratic deals promote perceptions of competitive climate, felt ostracism, and turnover? *Journal of Vocational Behavior, 99*, 118–131. Doi: 10.1016/j.jvb.2017.01.004

Nielsen, M. B. (2013). Bullying in work groups: The impact of leadership. *Scandinavian Journal of Psychology, 54*, 127–136. Doi: 10.1111/sjop.12011

Nielsen, M. B., Skogstad, A., Matthiesen, S. B., Glasø, L., Aasland, M. S., Notelaers, G., & Einarsen, S. (2009). Prevalence of workplace bullying in Norway: Comparisons across time and estimation methods. *European Journal of Work and Organizational Psychology, 18*, 81–101. Doi: 10.1080/13594320801969707

Nielsen, M. B., Notelaers, G., & Einarsen, S. (2011). Measuring exposure to workplace bullying. In S. Einarsen, H. Hoel, D. Zapf, & C. L. Cooper (Eds.), *Bullying and harassment in the workplace. Developments in theory, research, and practice* (2nd ed., pp. 149–174). Boca Raton, FL: CRC Press.

Nielsen, M. B., & Einarsen, S. (2012). Outcomes of exposure to workplace bullying: A meta-analytic review. *Work & Stress, 26,* 309–332. Doi: 10.1080/02678373.2012.734709

Notelaers, G., & Einarsen, S. (2008). *The construction and validation of the Short – Negative Acts Questionnaire*. Paper presented at 6th International Conference on Workplace Bullying, June 4–6, 2008, Montreal, Canada.

Notelaers, G., Hoel, H., van der Heijden, B., & Einarsen, S. (2018). Measuring bullying at work with the Short-Negative Acts Questionnaire: Identification of targets and criterion validity. *Work & Stress*. Advanced online publication. Doi: 10.1080/02678373.2018.1457736.

Paolacci, G., & Chandler, J. (2014). Inside the turk: Understanding Mechanical Turk as a participant pool. *Current Directions in Psychology Science, 23*, 184–188. Doi: 10.1177/0963721414531598

Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual Review of Psychology, 63*, 539-569. Doi: 10.1146/annurev-psych-120710-100452

Quine, L. (1999). Workplace bullying in NHS community trust: staff questionnaire survey. *British Medical Journal, 318, 228–232. Doi: 10.1136/bmj.318.7178.228*

R Core Team. (2017). *R: A language and environment for statistical computing*. Vienna, Austria: R Foundation for Statistical Computing.

Rodríguez-Muñoz, A., Antino, M., & Sanz-Vergel, A. I. (2017). Cross-domain consequences of workplace bullying: A multi-source daily diary study. *Work and Stress, 31*, 297–314. Doi: 10.1080/02678373.2017.1330782

Saam, N. J. (2010). Interventions in workplace bullying: A multilevel approach. *European Journal of Work and Organizational Psychology, 19*, 51–75. Doi: 10.1080/13594320802651403

Salin, D. (2003a). Bullying and organisational politics in competitive and rapidly changing work environments. *International Journal of Management and Decision Making, 4*, 35–46. Doi: 10.1504/ijmdm.2003.002487

Salin, D. (2003b). Ways of explaining workplace bullying: A review of enabling, motivating and precipitating structures and processes in the work environment. *Human Relations, 56*, 1213–1232. Doi: 10.1177/00187267035610003

Salin, D. (2015). Risk factors of workplace bullying for men and women: The role of the psychosocial and physical work environment. *Scandinavian Journal of Psychology, 56*, 69–77. Doi: 10.1111/sjop.12169

Salin, D., & Hoel, H. (2011). Organisational causes of workplace bullying. In S. Einarsen, H. Hoel, D. Zapf, & C. L. Cooper (Eds.), *Bullying and harassment in the workplace.*

Developments in theory, research, and practice (2nd ed., pp. 227–243). Boca Raton, FL: CRC Press.

Samnani, A.-K., & Sing, P. (2014). Performance-enhancing compensation practices and employee productivity: The role of workplace bullying. *Human Resource Management Review, 24*, 5–16. Doi: 10.1016/j.hrmr.2013.08.013

Satorra, A., & Bentler, P. M. (2001). A scaled difference chi-square test statistic for moment structure analysis. *Psychometrika, 66,* 507–514. Doi: 10.1007/BF02296192

Sauers, D. A., & Bass, K. (1990). Sustaining the positive effects of goal setting: The positive influence of peer competition. *Akron Business and Economic Review, 21*, 30-40.

Shaw, J. D., Duffy, M. K., & Stark, E. M. (2000). Interdependence and preference for group work: Main and congruence effects on the satisfaction and performance of group members. *Journal of Management, 26*, 259–279. Doi: 10.1177/014920630002600205

Siemsen, E., Roth, A., & Oliveira, P. (2010). Common method bias in regression models with linear, quadratic, and interaction effects. *Organizational Research Methods, 13*, 456–476. Doi: 10.1177/1094428109351241

Sischka, P. E., Décieux, J. P., Mergener, A., Neufang, K. M., & Schmidt, A. F. (2018). *The impact of forced answering and reactance on answering behavior in online surveys*. Manuscript submitted for publication.

Sischka, P. E., Melzer, A., Schmidt, A. F., Steffgen, G. (2018). *Psychological contract violation or basic need frustration? Mechanisms behind the effects of workplace bullying*. Manuscript submitted for publication.

Skogstad, A., Einarsen, S., Torsheim, T., Aasland, M. S., & Hetland, H. (2007). The destructiveness of laissez-faire leadership behavior. *Journal of Occupational Health Psychology, 12*, 80–92. Doi: 10.1037/1076-8998.12.1.80

Skogstad, A., Aasland, M. S., Nielsen, M. B., Hetland, J., Matthiesen, S. B., & Einarsen, S. (2014). The relative effects of constructive, laissez-faire, and tyrannical leadership on subordinate job satisfaction. *Zeitschrift für Psychologie, 222*, 221–232. Doi: 10.1027/2151-2604/a000189

Spence, J. T., & Helmreich, R. L. (1983). Achievement-related motives and behaviors. In J. T. Spence (Ed.), *Achievement and achievement motives: Psychological and sociological approaches* (pp. 7–74). San Francisco: W.H. Freeman and Company.

Stouten, J., Baillien, E., Van den Broeck, A., Camps, J., De Witte, H., & Euwema, M. (2010). Discouraging bullying: The role of ethical leadership and its effects on the work environment. *Journal of Business Ethics, 95*, 17–27. Doi: 10.1007/s10551-011-0797-x

Tepper, B. J. (2000). Consequences of abusive supervision. *Academy of Management Journal, 43*, 178–190. Doi: 10.2307/1556375

Tjosvold, D., Johnson, D. W., Johnson, R. T., & Sun, H. (2003). Can interpersonal competition be constructive within organizations? *Journal of Psychology, 137*, 63–84. Doi: 10.1080/00223980309600600

van Prooijen, J. W., & de Vries, R. E. (2016). Organizational conspiracy beliefs: implications for leadership styles and employee outcomes. *Journal of Business and Psychology*, *31*, 479–491. Doi: 10.1007/s10869-015-9428-3

Vartia, M. (1996). The sources of bullying. Psychological work environment and organizational climate. *European Journal of Work and Organizational Psychology, 5*, 203–214. Doi: 10.1080/13594329608414855

Vecchio, R. (2005). Explorations in employee envy: Feeling envious and feeling envied, *Cognition and Emotion, 19*, 69–81. Doi: 10.1080/02699930441000148

Woodrow, C., & Guest, D. E. (2017). Leadership and approaches to the management of workplace bullying. *European Journal of Work and Organizational Psychology, 26*, 221-233. Doi: 10.1080/1359432X.2016.1243529

5. Study 4: Psychological contract violation or basic need frustration? Psychological mechanisms behind the effects of workplace bullying exposure.

Sischka, P. E., Melzer, A., Schmidt, A. F., Steffgen, G. (2018). *Psychological contract violation or basic need frustration? Mechanisms behind the effects of workplace bullying exposure*. Manuscript submitted for publication.

5.1. Abstract

Workplace bullying is a serious phenomenon that has serious detrimental effects on health, work-related attitudes, and the behavior of the target. Particularly, workplace bullying exposure has been linked to lower level of general well-being, job satisfaction, vigor and performance, and higher level of burnout, workplace deviance, and turnover intentions. However, the mechanisms behind these relations are still not well understood. Drawing on social exchange theory and self-determination theory, we hypothesized perceptions of psychological contract violation and the frustration of basic psychological needs to mediate the relationship between workplace bullying exposure and various outcomes. Survey data from employees ($N = 1,408$) with different working backgrounds provide support for the proposed model.

Results show that feelings of psychological contract violation and frustration of basic needs accounted for unique variation in well-being, work satisfaction, burnout, vigor, and turnover intentions, pointing to the individual contribution of both psychological mechanisms. However, when controlled for frustration of basic needs, feelings of psychological contract violation were no longer a mediator between workplace bullying exposure and work performance. The present study is the first to concurrently investigate the proposed psychological mechanisms of psychological contract violation and frustration of basic needs in the context of workplace bullying in one survey.

Keywords: Workplace bullying, job satisfaction, well-being, turnover intentions, psychological contract breach, basic need satisfaction, social exchange theory, self-determination theory

5.2. Introduction

An impressive number of studies on workplace bullying has shown its detrimental effects on victim's health, work-related attitudes, and behavior (e.g., Bowling & Beehr, 2006; Hershcovis & Barling, 2010; Nielsen & Einarsen, 2012). Workplace bullying is defined as a situation where an employee persistently and over a period of time perceives him-/herself to be on the receiving end of negative treatments from people at work (i.e., colleagues, supervisor, subordinates, customer, clients) while finding it difficult to defend against this negative treatments (Einarsen & Skogstad, 1996; Vie, Glasø, & Einarsen, 2010). The term bullying refers to a broad range of negative acts, which includes work-related bullying (withholding information, unreasonable deadlines, opinions ignored), person-related harassment (spreading gossip, being ignored or excluded), and social exclusion (being ignored or excluded; Einarsen, Hoel, & Notelaers, 2009; Notelaers, Hoel, van der Heijden, & Einarsen, 2018).

Prolonged exposure to bullying experiences at the workplace has been shown to decrease general mental health and job satisfaction and to increase burnout (e.g., Bowling & Beehr, 2006; Nielsen & Einarsen, 2012). Furthermore, workplace bullying exposure has been linked with a decrease of vigor (Rodríguez-Muñoz, Moreno-Jiménez, & Sanz-Vergel, 2015), work performance (Bowling & Beehr, 2006), workplace deviance (Bowling & Beehr, 2006), and turnover intentions (Nielsen & Einarsen, 2012). Despite these well documented effects, researchers have only recently begun to investigate the psychological mechanism underlying the relationships between workplace bullying exposure and its various negative outcomes (e.g., Hogh, Mikkelsen, & Hansen, 2011; Parzefall & Salin, 2010; Salin & Notelaers, 2017). Studies on the possible mechanisms (i.e., mediators and moderators) between being target of workplace bullying and various outcomes are still sparse (Salin & Notelaers, 2017; for an overview see Rai & Agarwal, 2016, 2018). Especially two theories have gained attention to explain the link between workplace bullying exposure and various negative consequences. This includes a social exchange perspective — particularly psychological contract violation (e.g., Salin & Notelaers, 2017) — and the frustration of basic psychological needs (e.g., Trépanier, Fernet, & Austin, 2015, 2016). To date, however, these possible mechanisms between workplace bullying exposure and various outcomes have only been tested separately. Therefore, it cannot be ruled out that the detected mediation effects may be due to multicollinearity between the two concepts (i.e., between psychological contract violation and frustration of basic psychological needs). This bears the risk to misinform possible intervention strategies.

Hence, the present study has three objectives. First, we present theoretical consideration and empirical findings on why psychological contract violation and frustration of basic psychological needs may act as (independent) mediators between workplace bullying exposure and various outcomes. Second, we examine both mediating mechanisms separately testing whether the replicability of these reported effects. Finally, we investigate which of the proposed mechanisms best explain the associations between workplace bullying exposure and the different outcome variables. Therefore, the two hypothesized mechanisms were simultaneously tested to see whether they independently predict the different outcome variables when controlled for the other mediator.

5.3. Workplace bullying from a social exchange perspective

Cropanzano and Mitchell (2005) have argued, that social exchange theory (SET) is among the most influential conceptual paradigms for understanding workplace behavior, including workplace bullying (Parzefall & Salin, 2010). Social exchange is based on the norm of reciprocity (Gouldner, 1960) and involves a series of interactions that generate unspecified obligations among the involved parties (Cropanzano & Mitchell, 2005). Economic exchanges "demand repayment within a particular time period, involve exchanges of economic or quasieconomic goods, and are motivated by personal self-interest" (Cropanzano & Mitchell, 2005, p. 882). In contrast, social exchange constitutes a long-term and open-ended interaction that is characterized by trust, mutual commitment, and socioemotional investments (Shore, Tetrick, Lynch, & Barksdale, 2006). However, employer-employee relationships are characterized by both social and economic exchange (Shore et al., 2006). Some details of the employer-employee relationship are formalized (e.g., payment, working hours) while others are an issue of trust (e.g., safe work environment, work effort). In a working context, this means that employees repay favorable working conditions through positive work attitudes (e.g., higher job satisfaction) and behavior (e.g., better work performance), but also adjust their attitudes and behavior downward in response to perceived unfavorable treatment (Parzefall & Salin, 2010). According to social exchange theory, the concept of breaching/violating a psychological contract offers an in-depth explanation for the link between workplace bullying exposure and organizationally relevant attitudes and behavior.

The idea of psychological contract is based on implicit beliefs about the promises and commitments made in the exchange relationship (Rousseau, 1995). It contains resources promised to the employees and the corresponding obligations that are communicated and

implied by the norm of reciprocity (Aselage, & Eisenberger, 2003). In contrast to formalized contracts, psychological contracts are thus only informal, often implicit, and the perception and interpretation of the other's attitude and behavior plays a central role (Salin & Notelaers, 2017). Psychological contract breaching refers to the perception of failure to fulfil these promises. Two meta-analysis confirmed the negative consequences of a perceived psychological contract breach on work attitudes and behavior, including trust, job satisfaction, organizational commitment, organizational citizenship behavior, in-role performance, as well as turnover intentions (Bal, De Lange, Jansen, & Van Der Velde, 2008; Zhao, Wayne, Glibkowski, & Bravo, 2007). According to Robinson and Morrison (2000), psychological contract breach should even lead to more negative effects, when these perceptions are related to emotional reactions of anger and betrayal (i.e., feeling of psychological contract violation). While the terms psychological contract breach and psychological contract violation were used interchangeably for a while, Morrison and Robinson (1997) disagreed. They argued that breach would reflect the cognitive awareness of a broken promise whereas violation should be considered the affective response to the perception of psychological contract breach. In fact, a number of studies have shown that the feeling of psychological contract violation (i.e., frustration, anger, bitterness, and feelings of betrayal directed at the organization) is an important mediator between contract breach and various negative outcomes (Robinson, Morrison, 2000; Suazo, 2009; Zhao et al., 2007). According to affective event theory (Weiss & Cropanzano, 1996), these affective reactions shape work-related attitudes and behavior. Therefore, affective reactions (i.e., feeling of psychological contract violation) are antecedents of work-related health, attitudes and behavior. As job satisfaction is a function of the discrepancy between what an employee expects from his/her job and what he/she perceives it as offering, feelings of psychological contract violation may decrease job satisfaction (Zhao et al., 2007). Furthermore, if the job is valued less as a result of feelings of psychological contract violation, turnover intentions may increase as it can be regarded as an indicator of employee's psychological attachment to the organization (Zhao et al., 2007). Furthermore, because feelings of psychological contract consists of negative emotions, it also has an impact on emotional well-being (Cassar & Buttigieg, 2015). Additionally, employees with negative emotions due to psychological contract violation may also be less likely to feel dedicated or energetic to help the organization to reach its goals (Rai & Agarwal, 2017). According to the norm of reciprocity, employees may reduce their efforts as a reaction of a perceived contract violation resulting in lower job performance (Bal et al., 2010). Moreover, feelings of violation can initiate revenge

seeking in order to "get even" that in turn may motivate employees to engage in workplace deviance behavior (Bordia et al., 2008).

The psychological contract is not only formed on prior promises – in fact, promises seem to matter little (Montes & Zweig, 2009) – but is also shaped through pre-employment schemas, the recruitment process, and post-hire socialization (Rousseau, 2001). Therefore, employees have certain expectations and schemas concerning 'acceptable' workplace conditions although these may vary due to different pre-hire societal and professional socialization, and early employment experiences (Salin & Notelaers, 2017). Some conditions that might be regarded as acceptable in one occupation will be seen as unacceptable in another. Nevertheless, employees are likely to expect that their employer provides a safe work environment and that they will be treated with respect and dignity. However, when an employee becomes the target of permanent negative acts this expectation would certainly be violated. In this regard, workplace bullying "violates the social norms governing the exchange relationship and can thus be perceived as contract breach" (Parzefall, & Salin, 2010, p. 769). As a consequence of experiencing these violations of expected social norms at the workplace, targets of bullying will expect the organization to end this mistreatment (Parzefall, & Salin, 2010). If the organization fails to react accordingly, this will result in feelings of betrayal in the target of bullying. Therefore, a perceived contract breach that fosters feelings of psychological contract violation may serve as the mechanism through which workplace bullying exposure leads to a negative evaluation of the employment relationship (Parzefall, & Salin, 2010) and the associated negative attitudes that come with this evaluation (e.g., lower work engagement and job satisfaction, higher turnover intentions, etc.).

In line with this theoretical reasoning, Salin and Notelaers (2017) found that workplace bullying exposure increased perceived psychological contract violation, which in turn led to higher turnover intentions. Furthermore, Rai and Agarwal (2017) showed that psychological contract violation mediated the effect of workplace bullying exposure on work engagement. Moreover, Kakarika, González-Gómez and Dimitriades (2017) showed in an experimental study that workplace bullying exposure was associated with psychological contract breach. In an additional cross-sectional survey, they found that psychological contract breach mediated the association between being target of workplace bullying and job as well as life satisfaction. Based on previous studies on the concept of psychological contract, psychological contract violation may also serve as the mediator explaining the link between workplace bullying exposure and well-being (Guest & Conway, 2009), job satisfaction (Zhao et al., 2007; Bal et

al., 2008), burnout (Jamil, Raja, & Darr, 2013), engagement (Rayton & Yalabik, 2014), work performance (Bal, Chiaburu, & Jansen, 2010), workplace deviance (Bordia, Restubog, & Tang, 2008) and turnover intentions (Rigotti, 2009).

Hypothesis 1: Psychological contract violation mediates the effects of workplace bullying exposure on well-being (H1a), job satisfaction (H1b), vigor (H1c), subjective work performance (H1d), burnout (H1e), workplace deviance (H1f), and turnover intentions (H1g).

5.4. Workplace bullying and basic psychological needs

An alternative approach to explaining the link between workplace bullying exposure and work-related attitudes and behavior draws on self-determination theory (SDT; Deci & Ryan, 2000, 2008; Ryan & Deci, 2000). "SDT assumes that people are by nature active and self-motivated, curious and interested, vital and eager to succeed because success itself is personally satisfying and rewarding" (Deci & Ryan, 2008, p. 14). Based on a large number of empirical studies and inductive reasoning SDT assumes that humans have three basic psychological needs, namely autonomy, competence, and relatedness, which have to be satisfied in order to achieve optimal functioning in individuals. *Autonomy* refers to the individual's experience of freedom, volition and self-endorsement of choices and action and the absence of salient external controls (Ryan, 1995). *Competence* refers to the individual's need to express his/her capabilities, to master his/her environment, and to experience optimal challenges and positive feedback (Ryan, 1995). Finally, *relatedness* refers to the need of belongingness and connectedness to others and the feeling of being cared of and having significant relationships (Baumeister & Leary, 1995). Within SDT, individual differences in optimal functioning results from the interaction between individuals' inherent active nature and the social environment that can either support or thwart this nature. Therefore, social environments that facilitate satisfaction of the three psychological needs will support optimal functioning of individuals. In contrast, environments that thwart needs satisfaction of individuals have detrimental effects on well-being and various motivational outcomes (Deci & Ryan, 2008). Indeed, research has linked need satisfaction in the work context to various psychological health indicators such as general well-being, engagement, burnout and job satisfaction (Deci, Olafsen, & Ryan, 2017; Van den Broeck, Ferris, Chang, & Rosen, 2016). Furthermore, as need frustration reduces engagement, it is not surprising that need thwarting work environments have been linked to lower work performance (Baard, Deci, & Ryan, 2004). The reduced job satisfaction is also linked to higher turnover intentions (Van den Broeck et al.,

2016). Finally, basic need satisfaction has been linked to deviant workplace behavior (Lian et al., 2012).

Based on previous research (Trépanier, Fernet, & Austin, 2013, 2015, 2016) and findings that workplace bullying appears to be one of the most serious social stressor (Bowling & Beehr, 2006; Hauge et al., 2010; Nielsen & Einarsen, 2012) workplace bullying exposure may even thwart all three basic psychological needs (Aquino & Thau, 2009). For example, one form of workplace bullying manifests itself through excessive controlling behavior that aims at restricting the target's freedom, volition and self-endorsement of choices and actions (e.g., unreasonable deadlines, excessive monitoring of one's work). For employees, these negative acts likely result in feelings of constraint and repression, which therefore undermine his/her need for autonomy (Trépanier et al., 2015, 2016). Furthermore, perpetrators of workplace bullying may also aim at cutting down the targets accomplishments (e.g., exposed to an unmanageable workload, withholding information, unreasonable tight deadlines, repeated reminders of one's mistakes, persistent criticism), or taking the target 'out of the game' (e.g., by ordering him/her to do work below their level of competence, removing key areas of responsibility or replacing them with more trivial or unpleasant tasks). These kinds of negative behaviors likely thwart employee's need for competence (Trépanier et al., 2015, 2016). Finally, workplace bullying behavior may have the aim to isolate and ostracize the bullying target (e.g., by humiliation or ridicule, ignoring or exclusion, exposure to insulting or offensive remarks, hostile reactions). These forms of negative acts are likely to thwart the affected employee's need for relatedness (Trépanier et al., 2013). Therefore, organizations in which workplace bullying occurs can be seen as need thwarting environments. In sum, it may be hypothesized that frustration of basic needs constitutes the mechanism through which workplace bullying exposure leads to detrimental effects on the target's health, work-related attitudes, and behavior.

Indeed Trépanier, Fernet and Austin (2013) found that workplace bullying exposure decreases basic need satisfaction, which in turn increases burnout and decreased work engagement. This was confirmed in a longitudinal study with a 12-month time interval (Trépanier, Fernet, and Austin, 2015). The authors showed that workplace bullying exposure at T1 decreased basic need satisfaction at T2. Moreover, need satisfaction at T1 was linked to lower work engagement and higher turnover intentions at T2. However, need satisfaction at T1 was not associated with burnout at T2 (Trépanier et al., 2015). In another longitudinal study (based on the same sample) Trépanier, Fernet and Austin (2016) showed that workplace bullying exposure at T1 increased frustration of basic needs at T2. Additionally, frustration of

basic needs at T1 was associated with higher levels of psychosomatic complaints and lower level of life satisfaction at T2. Finally, Lian, Ferris and Brown (2012) showed that levels of basic need satisfaction mediated the association between abusive supervision, which may be considered a special case of workplace bullying, and organizational deviance. In self-determination theory, none of the needs is thought to be relatively more important than the others (Van den Broeck et al., 2016). This led some scholars to assess basic need satisfaction or frustration with an overall composite rather than each psychological need separately (e.g., Trépanier et al., 2015). However, a recent meta-analysis (Van den Broeck et al., 2016) showed that the different needs incrementally predict different outcomes. Therefore, in contrast to recent research we do not conceptualize the three needs as one factor that represent an overall need satisfaction, but as three correlated factors. Based on previous studies on the concepts of basic need satisfaction and frustration, we propose the following hypothesis.

Hypothesis 2-4: Frustration of employee's need for autonomy (H2), competence (H3), and relatedness (H4) mediates the effects of workplace bullying exposure on well-being (H2-4a), job satisfaction (H2-4b), vigor (H2-4c), subjective work performance (H2-4d), burnout (H2-4e), workplace deviance (H2-4f), and turnover intentions (H2-4g).

Figure 5-1 presents the developed model. By testing the proposed hypotheses, the present study sought to contribute to the workplace bullying literature in several ways. First, the present mediation analyses have not been described in the workplace bullying literature so far. Thereby, the present study aimed to elucidate the psychological mechanisms that link workplace bullying exposure to its well-established detrimental effects on victim's health, work-related attitudes, and behavior. Second, by simultaneously testing basic need frustrations and psychological contract violation, their relative independent influence as mediators between workplace bullying exposure and several outcomes can be assessed. Therefore, differential influences of the explanatory mechanisms on different outcomes can be taken into account, thus, providing a clearer view on the magnitude of individual effects that sometimes appear to be exaggerated (e.g., the effect size of psychological contract violation on work performance; Guest & Conway, 2009).

Figure 5-1.   The proposed model.
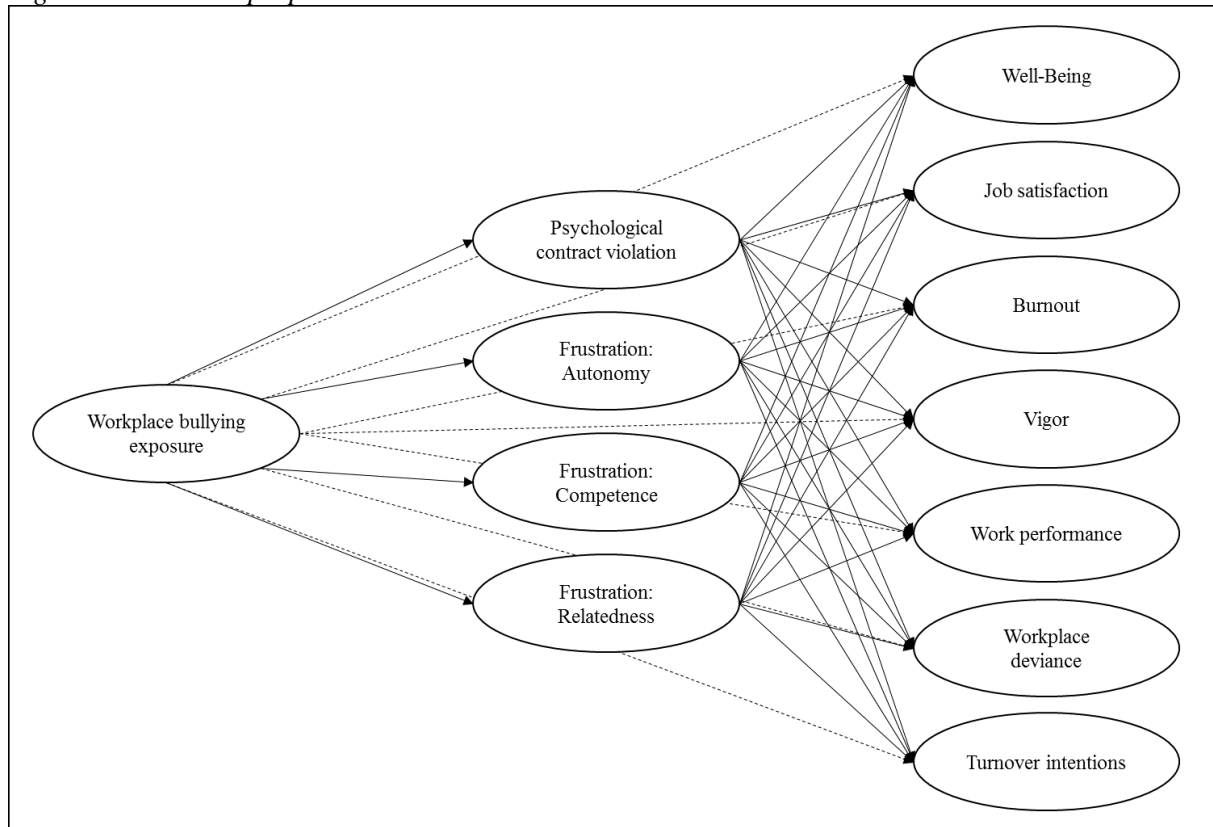
Notes. Solid lines: Hypothesized associations; dashed lines: Controlled associations.

5.5. Method

5.5.1. Participants and procedure

Participants were recruited via Amazon's Mechanical Turk (MTurk), an open online marketplace where individuals from all over the world can register as "workers" to complete Human Intelligence Tasks (HITs) for payment or as "requester" that offer tasks (Buhrmester, Kwang, & Gosling, 2011; Mason & Suri, 2012). Recently, MTurk has become popular among social scientist as a way to gather survey data, including but not limited to, experimental psychology (e.g., Crump, McDonnell, & Gureckis, 2013) and work psychology (Cheung, Burns, Sinclair, & Sliter, 2017). Advantages of MTurk samples are the quick, easy and inexpensive access to online survey participants. Furthermore, MTurk offers an opportunity for examining a wider range of occupations (Keith et al., 2017). Importantly, effect size magnitudes for various behavioral occupational health-related association are comparable to published benchmarks (e.g., Michel, O'Neill, Hartman, & Lorys, 2017).

We followed recent recommendations using MTurk as participant recruiting system (Keith et al., 2017), that allow for prescreening of the desired target population, fair payment (i.e., US$0.10 per estimated minute of participation; Chandler & Shapiro, 2016), and data

screening methods for insufficient effort responding (McGonagle, Huang, & Walsh, 2016). The TurkPrime platform (Litman, Robinson, & Abberbock, 2017) was used to manage data collection. For the prescreening, we invited workers, who were employed and reside in the Unites States to complete a 10-item online questionnaire (US$0.10 compensation for participation). Individuals trying to participate more than one time using identical Internet Protocol (IP) addresses were blocked. Furthermore, workers country location was verified in order to have only respondents located in the Unites States. As explicitly labeling or introducing the survey as 'prescreening survey' may cause workers to tell lies (Chandler & Paolacci, 2017), the survey was introduced as demographic survey without making any hint that it was used as screening tool. A total of 4,014 respondents (59.3% females, $n = 2,378$) took part in this prescreening. Completion rate (percentage of workers who started and finished a HIT) was considerably high (97.5%), while bounce rate (percentage of workers who previewed a HIT and did not accept it) was considerably low (9.3%), indicating a low level of self-selection (Keith, et al., 2017). Respondent's age ranged from 18 to 99 ($M = 36.7$; $SD = 11.9$). About half of the participants (50.3%, $n = 2021$) had a university degree (bachelor level or higher). Most of them were white (78.6%, $n = 3,157$), followed by Afro-American (8.8%, $n = 355$), Asian (6.8%, $n = 272$) and other ethnicity (5.7%, $n = 230$). Of all respondents, 2,059 (51.3%) were full-time employees and 427 (10.6%) were part-time employed, while the other respondents were self-employed or currently not employed (e.g., retired, homemaker, unemployed). Those who matched our inclusion criteria (at least part-time employed and working with supervisors and colleagues: 54.3%, $n = 2,179$) were invited to participate in a survey on working conditions (estimated duration of 12 minutes) in exchange for monetary compensation two weeks later. A total of 1,609 participants (73.8%) followed our invitation. Gender, age and ethnicity had some influence on taking the survey: male workers ($\chi^2 = 10.534$, $df = 1$, $p > .01$, Cramer's $V = .07$), older workers ($t = 5.921$, $df = 2,177$, $p > .001$, $r = .13$), and white, Afro-American and Asian workers (compared to Native Hawaiian, American Indian and Alaska natives, $\chi^2 = 11.282$, $df = 5$, $p > .05$ Cramer's $V = .07$) were more likely to participate in the survey. However, the effect sizes were rather small, therefore, we exclude substantial amounts of systematic dropout. Participants were given an informed consent form. After survey completion, each participant was compensated with US$1.20. We opted against a forced answering design as this has been found to be detrimental in terms of data quality (Sischka, Décieux, Mergener, Neufang, & Schmidt, 2018). Workers who indicated that their employment status had changed between prescreening and the present survey (e.g., from employment to self-employment, homemaker, student, unemployment or retirement) were directly filtered out (0.9%; $n = 15$). Furthermore,

some respondents were excluded, due to some missing data (1.7%, *n* = 27). Average completion time for the final survey was 13.4 minutes (*SD* = 8.7, median = 11.4 minutes)[48]. In order to guarantee data quality, two items were included to check for participants' attention. Furthermore, four self-report questions about data quality were presented at the end of the questionnaire to identify insufficient effort responding (IER; also referred to as 'carless responding'), which describes responses to items without regard to their content. IER can seriously threaten validity (e.g., McGonagle, Huang, & Walsh, 2016). Respondents had to indicate the frequency of answering questions honestly (reverse-scored), responding without carefully reading the questions, putting thought into survey responses (reverse-scored), and using little effort when selecting answers (DeSimone & Harms, 2017). The response format for these items ranged from 1 (="Totally disagree") to 7 (="Totally agree") with higher scores indicating potential insufficient effort responding. Respondents that failed to correctly answer the two instructed response items and/or scored above 3 (="Disagree somewhat") on the average self-reported data quality items were excluded (10.2%, *n* = 159) from further analysis. Therefore, the final sample consisted of 1,408 respondents (56.6% females, *n* = 797) with age ranging from 20 to 73 (*M* = 37.2; *SD* = 10.3). Employees tenure in their organization ranged from less than a year to 51 years (*M* = 6.2; *SD* = 6.7). Most of them had a permanent work contract (87.6%, *n* = 1,233) and no supervisor responsibility (68.0%, *n* = 958). On average respondents worked 39.2 hours per week (*SD* = 8.8).

5.5.2. Measures

Workplace bullying exposure. We used the 9-item Short-Negative Acts Questionnaire (S-NAQ; Notelaers & Einarsen, 2008; Notelaers, Hoel, van der Heijden, & Einarsen, 2018) to assess exposure to workplace bullying (ω = .94). Respondents indicated how frequently they had been exposed to each of these negative acts (e.g., "Someone withholding information which affects your performance") on a scale from 1 (= *never*) to 5 (= *always*).

Psychological contract violation. To measure psychological contract violation (i.e., the affective component of psychological contract breach) we used the 4-item scale from Robinson and Morrison (2000; e.g., "I feel betrayed by my organization"; ω =.96). The response format ranged from 1 (= *totally disagree*) to 7 (= *totally agree*).

Basic psychological need frustration. We used the Psychological Needs Thwarting Scale (Bartholomew et al., 2011) that was modified to fit the work context (see also Olafsen et

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[48] The survey also contained some measures of workplace conditions (see Sischka, Schmidt, & Steffgen, 2018).

al., 2017; Trépanier et al., 2016). This scale assesses the frustration of the need for autonomy (4 items; e.g., "I feel prevented from making choices with regard to the way I do my work"; ω =.79), competence (4 items; e.g., "There are times at work when I am told things that make me feel incompetent"; ω =.89), and relatedness (4 items; e.g., "At work, I feel other people dislike me"; ω =.81). All items had a response format ranging from 1 (= *totally disagree*) to 7 (= *totally agree*).

Well-Being. The 5-item WHO-5 Well-Being Index (ω = .85) is a well validated brief general index of subjective psychological well-being (Topp, Østergaard, Søndergaard, & Bech, 2015; World Health Organization, 1998) with responses ranging from 1 (= *at no time*) to 6 (= *all of the time*). A sample item is "Over the past two weeks I have felt cheerful and in good spirits".

Job satisfaction. We used the 3-item Michigan Organizational Assessment Questionnaire Job Satisfaction Subscale (Cammann, Fichman, Jenkins, & Klesh, 1983; see also Bowling & Hammond, 2008; ω =.93). A sample item is "All in all I am satisfied with my job". The response format ranged from 1 (= *totally disagree*) to 7 (= *totally agree*).

Burnout. We used the 7-item work-related burnout subscale of the Copenhagen Burnout Inventory (CBI; Kristensen, Borritz, Villadsen, & Christensen, 2005; ω = .92). A sample item is "Do you feel that every working hour is tiring for you?". The response scale ranged from 1 (= *never*) to 5 (= *always*).

Vigor. The 3-item vigor subscale (ω =.91) of the Utrecht Work Engagement Scale (Schaufeli, Bakker, & Salanova, 2006) is characterized by high levels of energy and the willingness to invest effort in one's work, even when it comes to difficulties and problems. A sample item is "At my work, I feel bursting with energy". Response alternatives ranged from 1 (= *totally disagree*) to 7 (= *totally agree*).

Work performance. Subjective work performance was assessed by two items (Sischka, Schmidt, & Steffgen, in press; ω =.81), including "How do you rate your overall work performance compared to your colleagues?" and "How does your supervisor rate your overall work performance?". Participant responded on a 7-point scale ranging from 1 (= *far below average*) to 7 (= *far above average*).

Workplace deviance. We used five items (ω = .87) of the organizational deviance scale from Bennet and Robinson (2000; 7-point response scale ranging from 1 = *totally disagree* to 7 = *totally agree*). A sample item is "Put little effort into your work".

Turnover intentions. We used the 3-item scale of Sjöberg and Sverke (2000; $\omega = .87$). A sample item is "I am actively looking for other jobs.". Participants responded on a 7-point scale ranging from 1 (= *totally disagree*) to 7 (= *totally agree*).

5.5.3. Statistical analysis

Given that the distribution of indicators has a strong influence on confirmatory factor analyses' (CFA) and structural equation modeling (SEM) estimation results, univariate and multivariate distribution of the items were analyzed. Subsequently, we tested the proposed measurement model with CFA in order to guarantee construct validity. The MLR χ^2-test statistic (Yuan & Bentler, 2000) and respective fit indices were calculated as they provide more accurate estimations for items with five or more answer categories and for distortion from univariate and multivariate normality (Finney & DiStefano, 2013). The effects-coding method was used for scale setting to estimate each construct's latent mean and variance in a non-arbitrary metric (Little, Slegers, & Card, 2006). Therefore, the latent constructs have a theoretical range similar to the manifest items. Furthermore, we performed analyses of zero-order correlations to get a first impression of the associations between constructs. Therefore, we used phantom constructs in order to calculate the covariance between the latent variables in correlational metric (Little, 2013). In a next step, we conducted separate mediation analyses (MacKinnon, Coxe, & Baraldi, 2012) within a SEM approach to test the mediating effect of feelings of psychological contract violation and basic need frustration on the relation of workplace bullying and several outcomes. In order to obtain a clearer picture of mediation effects, we then tested a multiple mediator model to evaluate the individual influence of each proposed mediator by controlling for multicollinearity. Point and interval estimators for the (unstandardized and standardized) indirect effects were calculated. To obtain the 95% confidence intervals the percentile bootstrap approach was applied (Davison & Hinkley, 1997) as it has a good coverage probability for obtaining confidence intervals for the indirect effect in unstandardized (Cheung, 2007; Falk & Biesanz, 2015) and standardized metric (Cheung, 2009) in SEM framework (we drew 10,000 bootstrap samples). R version 3.4.2 (R Core Team, 2017) was used for data analysis.

5.6. Results

5.6.1. Factor analysis

As subjective work performance only contains two indicators, their factor loadings were set equal in order to avoid estimation problems and improper solutions (e.g., Heywood cases). Table 5-1 shows the CFA results. Informed by exploratory factor analysis, other competing measurement models were tested in order to guarantee that the study's constructs were distinct. Table 5-1 shows that the expected 12-factor solution fitted the data better than a 10-factor (workplace bullying exposure, psychological contract violation, frustration autonomy, frustration competence + frustration relatedness, well-being, burnout, vigor, job satisfaction + turnover intentions, workplace deviance and work performance), 11-factor (additionally including turnover intentions) or 13-factor solution (like the twelve-factor model but with a second-order factor for basic need frustration). Furthermore, the chi square difference test between the 11- and 12-factor model was significant ($\Delta\chi^2 = 278.82$, $\Delta df = 31$, $p < .001$), as was the case with the 12-factor and the 13-factor model ($\Delta\chi^2 = 153.51$, $\Delta df = 18$, $p < .001$), which suggests that adding a second-order factor for basic need frustration, does not improve model fit.

Table 5-1.   Fit statistics for different measurement models.

Model	χ^2	df	p	RMSEA [CI$_{90}$]	SRMR	CFI	TLI
Single factor	21466.251	1326	.000	.104 [.103; .105]	.099	.549	.532
9 factors	6236.188	1290	.000	.052 [.051; .053]	.051	.889	.882
10 factors	5989.793	1281	.000	.051 [.050; .052]	.051	.895	.887
11 factors	5440.175	1271	.000	.048 [.047; .049]	.050	.907	.899
12 factors	5123.209	1260	.000	.047 [.045; .048]	.049	.914	.905
13 factors (Basic need frustration as second-order factor)	5273.594	1278	.000	.047 [.046; .048]	.051	.911	.904

Notes. MLR estimator; *RMSEA* = root mean squared error of approximation; *SRMR* = standardized root mean square residual; *CFI* = comparative fit index; *TLI* = Tucker-Lewis index.

5.6.2. Correlational analysis

Table 5-2 shows the latent means, standard deviations, and intercorrelations between the study variables as well as internal consistencies. The correlational analyses offered a first insight into the hypothesized relationships among the constructs. As expected, workplace bullying exposure was highly correlated with feelings of psychological contract violation and frustration of basic needs, especially regarding need for relatedness. Furthermore, workplace bullying exposure was negatively correlated with well-being, job satisfaction, vigor and work performance.

Table 5-2.   *Latent means, standard deviations, intercorrelations, and reliabilities.*

|		M	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1.	Workplace bullying exposure	1.71	0.69	.91 [.91; .92]											
2.	Psychological contract violation	2.29	1.53	.64 [.60; .68]	.95 [.95; .96]										
3.	Frustration: autonomy	3.50	1.31	.62 [.58; .67]	.65 [.60; .69]	.83 [.82; .85]									
4.	Frustration: competence	2.88	1.43	.71 [.67; .75]	.66 [.62; .70]	.86 [.83; .90]	.88 [.87; .89]								
5.	Frustration: relatedness	2.76	1.25	.81 [.77; .84]	.70 [.66; .74]	.81 [.78; .85]	.88 [.84; .91]	.84 [.82; .85]							
6.	Well-Being	3.79	1.07	-.37 [-.42; -.31]	-.48 [-.53; -.43]	-.51 [-.57; -.46]	-.51 [-.56; -.46]	-.52 [-.57; -.47]	.92 [.91; .93]						
7.	Job satisfaction	5.00	1.54	-.47 [-.52; -.42]	-.73 [-.77; -.70]	-.63 [-.68; -.59]	-.61 [-.65; -.57]	-.60 [-.65; -.56]	.66 [.62; .70]	.93 [.92; .94]					
8.	Burnout	3.11	0.86	.53 [.49; .58]	.60 [.56; .64]	.63 [.58; .67]	.62 [.58; .66]	.59 [.54; .63]	-.62 [-.67; -.58]	-.70 [-.74; -.67]	.92 [.91; .93]				
9.	Vigor	3.82	1.49	-.37 [-.42; -.32]	-.50 [-.55; -.46]	-.53 [-.58; -.48]	-.52 [-.57; -.48]	-.54 [-.58; -.49]	.76 [.73; .79]	.75 [.72; .78]	-.70 [-.73; -.66]	.91 [.90; .92]			
10.	Work performance	5.25	0.87	-.21 [-.28; -.15]	-.23 [-.30; -.16]	-.29 [-.35; -.22]	-.39 [-.45; -.33]	-.32 [-.39; -.26]	.33 [.27; .39]	.30 [.23; .36]	-.19 [-.25; -.12]	.35 [.29; .41]	.79 [.76; .82]		
11.	Workplace deviance	1.79	0.63	.33 [.26; .39]	.32 [.26; .38]	.41 [.35; .46]	.42 [.36; .47]	.40 [.34; .46]	-.35 [-.40; -.29]	-.39 [-.45; -.33]	.39 [.34; .44]	-.48 [-.53; -.42]	-.30 [-.37; -.24]	.82 [.81; .84]	
12.	Turnover intentions	3.52	1.68	.40 [.36; .45]	.61 [.57; .65]	.57 [.52; .62]	.52 [.48; .57]	.51 [.46; .56]	-.50 [-.55; -.45]	-.82 [-.85; -.79]	.59 [.55; .63]	-.61 [-.65; -.57]	-.17 [-.24; -.11]	.34 [.28; .39]	.87 [.85; .88]

Note. Coefficients display zero-order correlations and in parentheses CI_{95}; McDonald's ω (internal consistency) in the main diagonal; all correlations are significant at $p < .001$.

In contrast, workplace bullying exposure was positively correlated with burnout, workplace deviance and turnover intentions. Finally, feelings of psychological contract violation and frustration of autonomy, competence, and relatedness were negatively associated with well-being, job satisfaction, vigor, and subjective work performance. Positive relations were found between feelings of psychological contract violation and burnout, workplace deviance and turnover intentions. Notably, feelings of psychological contract violation and any indicator of basic need frustration were substantially positively associated.

### 5.6.3. Single mediation analysis

In a first step, we tested whether psychological contract violation mediates the association between workplace bullying exposure and the different outcomes. Figure 5-2 shows the structural model that included all outcome variables and the specified correlations between their error terms. The model showed a good fit to the data ($\chi^2 = 3238.800$, $df = 744$, $p < .001$, *RMSEA* [CI_{90}] = .049 [.047; .050], *SRMR* = .048, *CFI* = .925, *TLI* = .918). Workplace bullying exposure was a strong predictor for psychological contract violation (Figure 5-2, path a). An increase of one unit in workplace bullying lead to an increase of 1.43 units in feelings of psychological contract violation. Furthermore, psychological contract violation was a significant predictor for all outcome variables (Figure 5-3, path b), when controlling for the direct effect of workplace bullying exposure (Figure 5-3, path c'). However, feelings of psychological contract violation had the strongest influence on job satisfaction and turnover intentions. Moreover, the indirect or mediated effect was significant for all outcome variables (Figure 5-3, path a*b) as well as the total effect (Figure 5-3, path Total).

Figure 5-2. *Psychological contract violation as mediator between workplace bullying exposure and outcomes.*
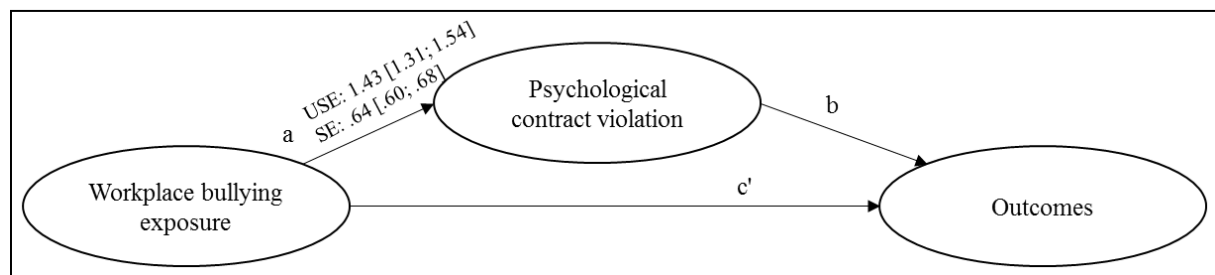
Notes. USE: Unstandardized effect; SE: standardized effect. Item-level structure of the constructs, error terms and correlations between error terms of dependent variables are not shown, for simplicity and clarity. CI_{95} based on 10,000 bootstrap samples calculated with percentile bootstrap approach; $R^2_{\text{Psychological contract violation}} = .41$.
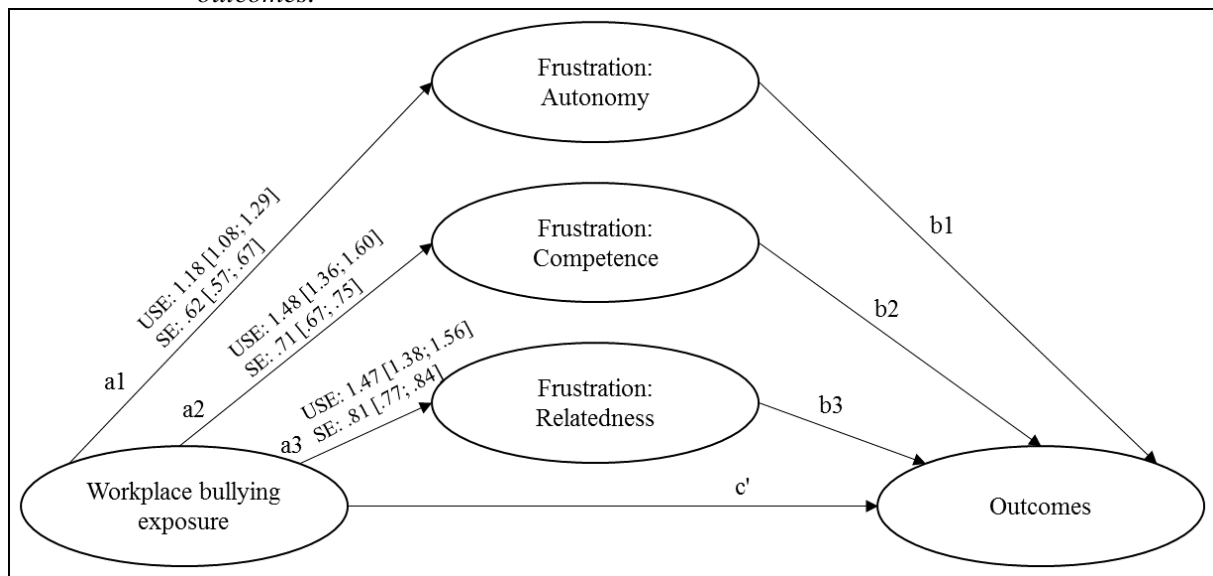
Figure 5-3. *Psychological contract violation as mediator between workplace bullying exposure and outcomes: Parameters.*
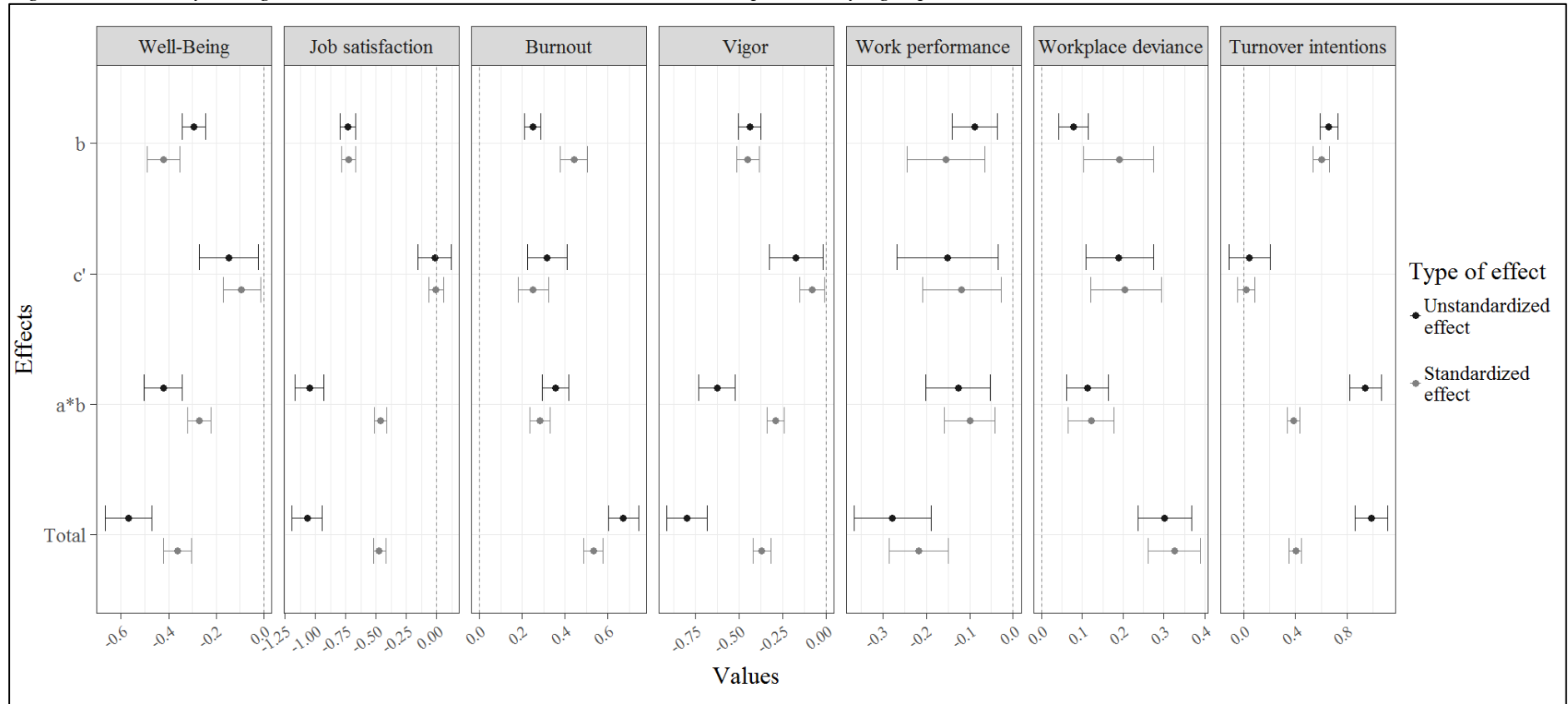
Notes. For paths related to "a" see Figure 2. CI$_{95}$ based on 10,000 bootstrap samples calculated with percentile bootstrap approach; $R^2_{\text{Well-Being}}$ = .24; $R^2_{\text{job satisfaction}}$ = .54; R^2_{burnout} = .40; R^2_{vigor} = .26; $R^2_{\text{work performance}}$ = .06; $R^2_{\text{workplace deviance}}$ = .13; $R^2_{\text{turnover intentions}}$ = .37.

Next, we tested whether frustration of basic needs (i.e., frustration of autonomy, competence, and relatedness) mediated the relation between workplace bullying exposure and the outcome variables. Figure 5-4 shows the specified structural model. Again all outcome variables were included in one model with correlated error terms. This model showed reasonable model fit (χ^2 = 4800.997, df = 1073, p < .001, $RMSEA$ [CI_{90}] = .050 [.048; .051], $SRMR$ = .049, CFI = .906, TLI = .897). Workplace bullying exposure was a strong predictor for all basic need frustrations. An increase of one unit in workplace bullying exposure lead to an increase of 1.18 units in frustration of autonomy, 1.48 units in frustration of competence and 1.47 units in frustration of relatedness. As the inspection of the correlational analysis already suggested, there was a high multicollinearity between the different basic need frustrations ($VIF_{autonomy}$ = 4.07, $VIF_{competence}$ = 5.96, $VIF_{relatedness}$ = 4.68). However, the variance inflation factors fell below the suggested cutoff value for extreme multivariate collinearity of $VIF > 10$ (Kline, 2016), thus allowing for estimation of the effects of all these variables.

Figure 5-4. *Basic need frustrations as mediators between workplace bullying exposure and outcomes.*

Notes. USE: Unstandardized effect; SE: standardized effect. Item-level structure of the constructs, error terms and correlations between error terms of mediators and correlations between error terms of dependent variables are not shown, for simplicity and clarity. CI_{95} based on 10,000 bootstrap samples calculated with percentile bootstrap approach; $R^2_{\text{Frustration Autonomy}}$ = .39; $R^2_{\text{Frustration Competence}}$ = .50; $R^2_{\text{Frustration Relatedness}}$ = .65.

Figure 5-5. *Basic need frustrations as mediators between workplace bullying exposure and outcomes: Parameters.*
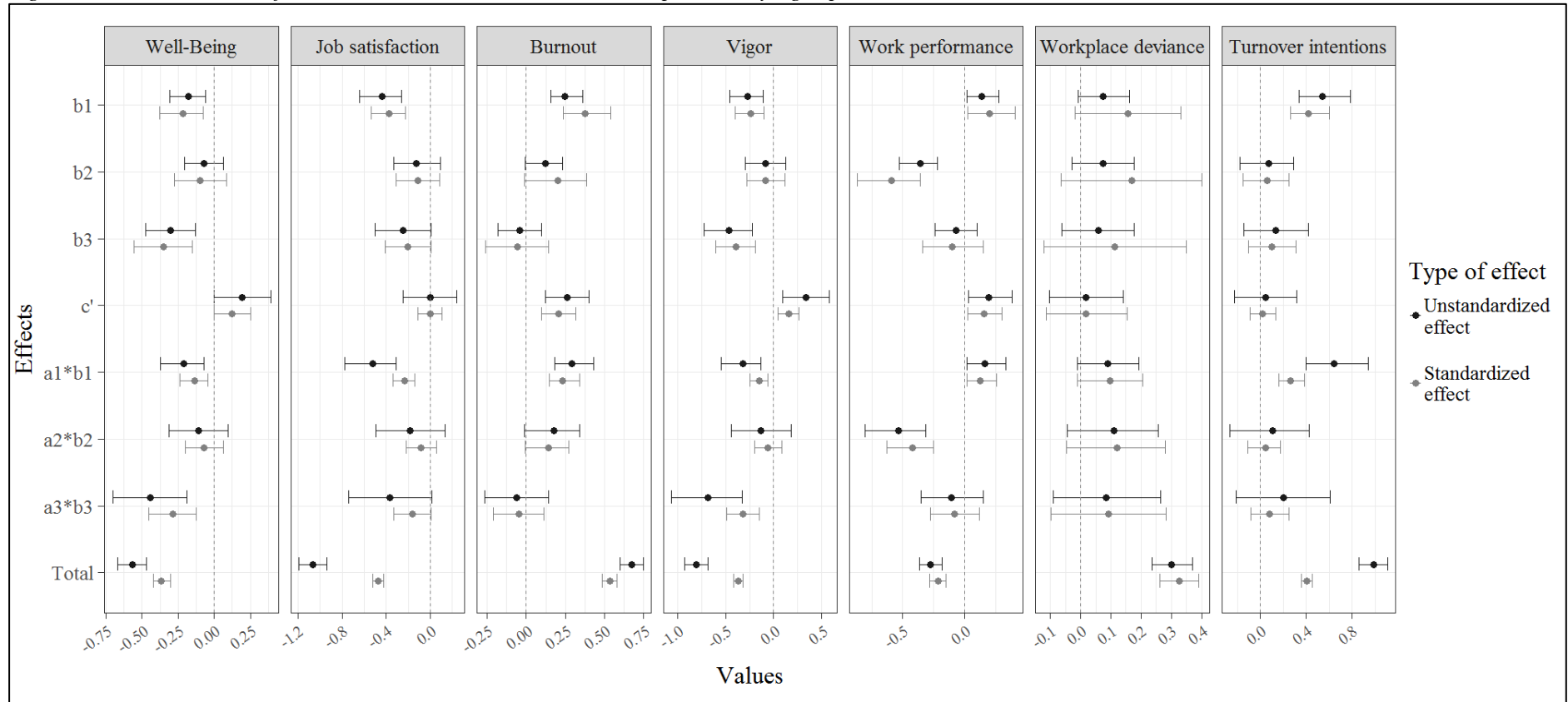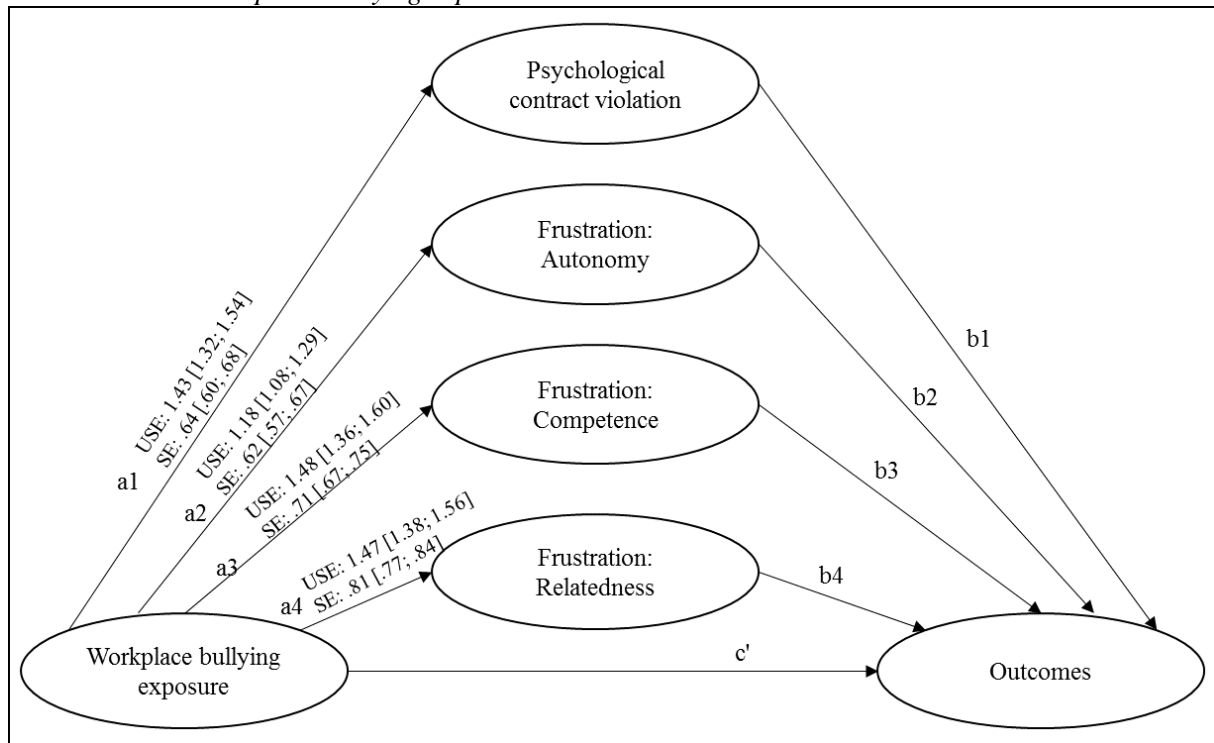

Notes. For paths related to "a" see Figure 4. CI$_{95}$ based on 10,000 bootstrap samples calculated with percentile bootstrap approach; $R^2$$_{Well-Being}$ = .30; $R^2$$_{job\ satisfaction}$ = .43; $R^2$$_{burnout}$ = .44; $R^2$$_{vigor}$ = .32; $R^2$$_{work\ performance}$ = .17; $R^2$$_{workplace\ deviance}$ = .19; $R^2$$_{turnover\ intentions}$ = .33.

Frustration of autonomy was a significant predictor for all outcome variables except workplace deviance (Figure 5-5, path b1) when controlling for the other basic need frustrations competence and relatedness and the direct effect of workplace bullying exposure. Furthermore, frustration of competence was only related to work performance (Figure 5-5, path b1) and frustration of relatedness was a predictor for well-being and vigor (Figure 5-5, path b3) when controlled for other effects. These results were mirrored by the indirect effects. Frustration of autonomy significantly mediated all outcomes except workplace deviance (Figure 5-5, path a1*b1). Frustration of competence only mediated between workplace bullying exposure and lower work performance (Figure 5-5, path a2*b2). Finally, frustration of relatedness mediated the association between workplace bullying exposure and well-being as well as vigor (Figure 5-5, path a3*b3).

5.6.4. Multiple mediation analysis

In order to identify the independent contributions and the most powerful mediators for the explanation of the different outcomes, we tested a model that included all mediators concurrently. Figure 5-6 shows the specified structural model. Again, all outcome variables were included in this model with correlated error terms. This model showed an acceptable fit to the data (χ^2 = 5123.209, df = 1260, p < .001, $RMSEA$ [CI_{90}] = .047 [.045; .048], $SRMR$ = .049, CFI = .914, TLI = .905), but again with high multicollinearity between the mediators ($VIF_{violation}$ = 2.01, $VIF_{autonomy}$ = 4.24, $VIF_{competence}$ = 6.06, $VIF_{relatedness}$ = 5.06). For well-being, psychological contract violation, frustration of autonomy, and frustration of relatedness served as substantial mediators (Figure 5-7). Regarding job satisfaction, burnout and vigor, psychological contract violation and frustration of autonomy mediated the paths between workplace bullying and these outcomes. For vigor, however, frustration of relatedness was the strongest mediator. Frustration of competence was the best predictor of work performance. Furthermore, frustration of autonomy had only a very small indirect effect on work performance and workplace deviance had no significant mediational effects. Regarding turnover intentions, psychological contract violation, and frustration of autonomy turned out to significantly mediate the relation between workplace bullying exposure and this outcome variable.

Figure 5-6. *Psychological contract violation and basic need frustrations as mediators between workplace bullying exposure and outcomes.*

Notes. USE: Unstandardized effect; SE: standardized effect. Item-level structure of the constructs, error terms and correlations between error terms of mediators and correlations between error terms of dependent variables are not shown, for simplicity and clarity. CI₉₅ based on 10,000 bootstrap samples calculated with percentile bootstrap approach; $R^2_{\text{Psychological contract violation}} = .41$; $R^2_{\text{Frustration Autonomy}} = .39$; $R^2_{\text{Frustration Competence}} = .50$; $R^2_{\text{Frustration Relatedness}} = .65$.

Figure 5-7. *Psychological contract violation and basic need frustrations as mediators between workplace bullying exposure and outcomes: Parameter.*
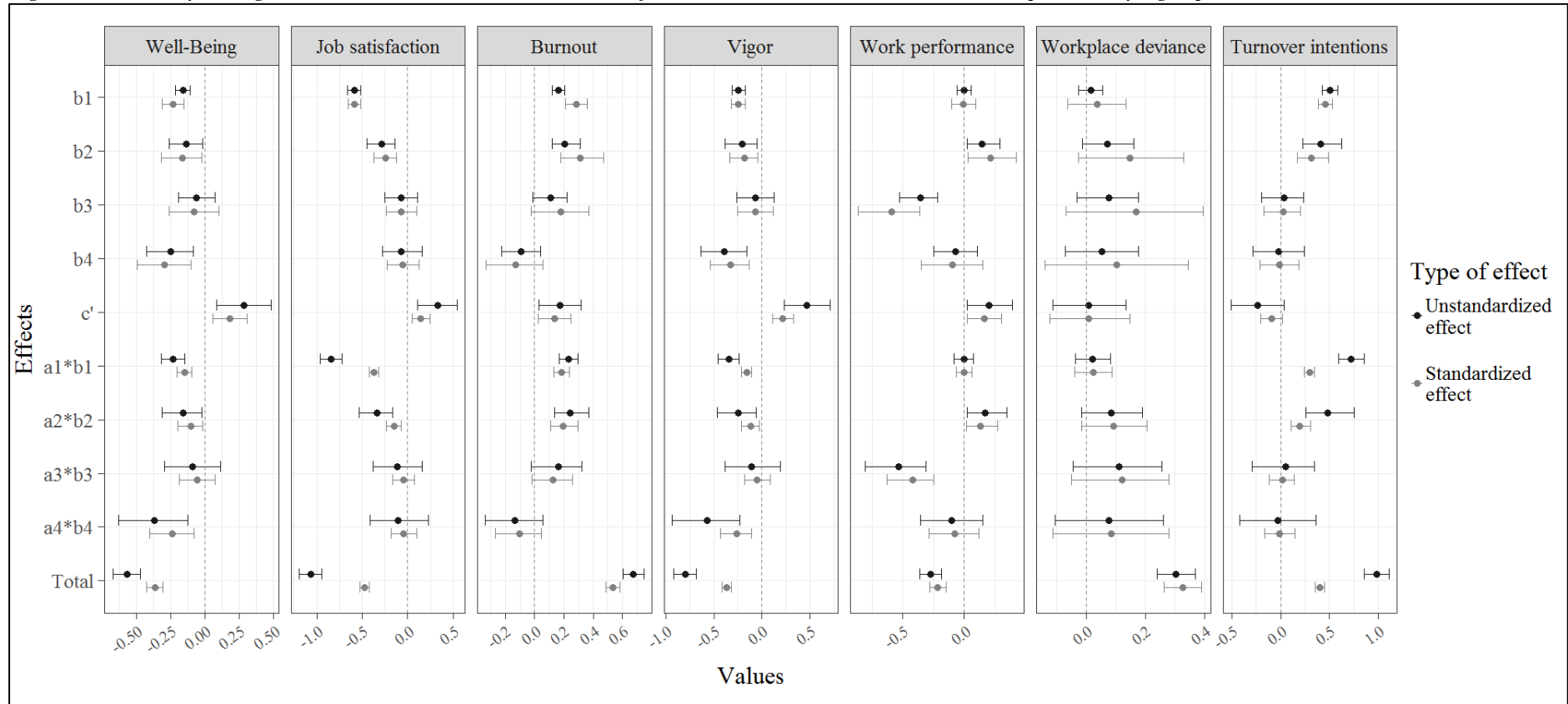
Notes. For paths related to "a" see Figure 6. CI$_{95}$ based on 10,000 bootstrap samples calculated with percentile bootstrap approach; $R^2_{\text{Well-Being}} = .33$; $R^2_{\text{job satisfaction}} = .59$; $R^2_{\text{burnout}} = .48$; $R^2_{\text{vigor}} = .35$; $R^2_{\text{work performance}} = .17$; $R^2_{\text{workplace deviance}} = .19$; $R^2_{\text{turnover intentions}} = .43$.

5.7. Discussion

The present study provides detailed insights into the mechanisms underlying differential effects of workplace bullying exposure on a number of variables that capture health, work-related attitudes, and workplace behavior (i.e., well-being, job satisfaction, burnout, vigor, work performance, workplace deviance, turnover intentions). Multiple mediation analyses allowed an assessment of the specific mediating effect of each variable tested, conditional on the presence of other mediators in the model. Based on this method, different mediators were identified as psychological mechanisms that link workplace bullying exposure and its negative consequences. We replicated previous findings that feelings of psychological contract violation denote a psychological mechanism that explains the link between workplace bullying exposure and work engagement (Rai & Agarwal, 2017) as well as the link between workplace bullying exposure and turnover intentions (Salin & Notelaers, 2017). However, as Salin and Notelaers (2017) suggested, other processes also affect turnover intentions. In addition to psychological contract violation, frustration of the need for autonomy was found to mediate the effect of workplace bullying on turnover intentions. Similarly, frustrating both the need for autonomy and relatedness mediated the relation between bullying and vigor. Therefore, the present findings are also consistent with previous studies on workplace bullying exposure and basic psychological needs (Trépanier et al., 2013, 2015, 2016). At the same time, we also extended these studies by simultaneously testing both psychological mechanisms. Therefore, we were able to calculate the individual effect of each mediator by controlling for the other. Furthermore, we showed that feelings of psychological contract violation also play an important role as mediator between bullying exposure and both job satisfaction and burnout. We also explored the link between bullying and subjective work performance and found that frustrating competence appears to be more important (i.e., detrimental) than feelings of psychological contract violation.

5.7.1. Theoretical implications

The results of the present study showed that being on the receiving end of constant negative behavior violates the expectations of a safe work environment where one is treated with respect and dignity. This may lead to feelings of psychological contract violation (e.g., feelings of betrayal). In line with affective events theory (Weiss & Cropanzano, 1996), feelings of contract violation are associated with lower levels of well-being and burnout, as permanent negative emotions have an impact on employees' psychological health. Furthermore, in line with social exchange theory that emphasizes the importance of reciprocity to understand the

evaluation of one's relation with other parties (Cropanzano & Mitchell, 2005), feelings of contract violation make the job less valuable to the employee. Consequences are lower job satisfaction, lower vigor and higher turnover intentions. Moreover, the norm of reciprocity (Gouldner, 1960) also explains why feelings of contract violation are also associated with lower work performance and higher workplace deviance. Employees seek an equitable balance between their contributions and what they receive from their organization. As a consequence to negative treatment employees will adjust their behavior downwards.

Additionally, our results show that workplace bullying exposure decreases the perceived autonomy of the target and frustrates his/her needs for competence and relatedness. In line with self-determination theory (Deci & Ryan, 2000), this has detrimental effects on targets' motivation and well-being. Regarding the explanatory contributions of each need, and in line with a recent review and meta-analysis of self-determination theory (Van den Broeck et al., 2016), autonomy is the strongest predictor for job satisfaction, burnout, and turnover intentions, whereas competence appears to be the most important factor for work performance. In contrast to the meta-analysis, relatedness, but not competence and autonomy, is the strongest predictor for well-being and vigor. However, in contrast to most previous studies referring to self-determination theory, we directly studied need frustration in contrast to need satisfaction, as this is a more direct test of our hypothesis regarding the mediating process of self-determination theory in the context of workplace bullying. As Vansteenkiste and Ryan (2013) pointed out, need frustration may relate more robustly to malfunctioning than low need satisfaction. Therefore, different patterns may occur when one studies need frustration compared to need satisfaction. In contrast to the meta-analysis by Van den Broeck et al. (2016), the present study found that relatedness is more important for well-being and vigor than competence and autonomy. This may be due to the fact that low satisfaction of relatedness (at work) can be easily compensated with relationships outside of the work context (i.e., family, friends). In this regard, low need satisfaction may be just the absence of work-related friendships. In contrast, frustration of relatedness may display feelings of ostracism and isolation and, therefore, may have a stronger relation to well-being. This is also supported by Trépanier et al. (2016), who simultaneously studied the longitudinal influence of basic need satisfaction and frustration. While frustration of relatedness was linked with decreased life satisfaction one year later, relatedness satisfaction was not. The need for belongingness is a fundamental human need that, if unfulfilled, may have detrimental effects when a certain threshold is reached (Baumeister & Leary, 1995).

The results of the present study also revealed that feelings of psychological contract violation and frustration of basic needs accounted for unique variation in well-being, job satisfaction, burnout, vigor, and turnover intentions, thus pointing to the individual contribution of both psychological mechanisms. However, when controlled for frustration of basic needs, feelings of psychological contract violation were no longer related to work performance. Therefore, feelings of psychological contract violation seem only spuriously correlated with work performance, which may be explained by the association of frustration of competence and work performance. Furthermore, when controlled for frustration of basic needs, feelings of psychological contract violation were also no longer related to workplace deviance. However, as none of the frustration of basic needs were related to workplace deviance either, this could be due to reduced power because of high multicollinearity.

5.7.2. Practical implications

The results of this study have several important implications for practitioners. Given the generally detrimental effects of workplace bullying exposure on target's health, attitudes, and work-related behavior and the resulting tremendous financial costs encompassing individual, organizational, and societal levels (Hassard, Teoh, Visockaite, Dewe, & Cox, 2017), employers need to take action. Primary stage interventions, like training supervisors conflict management and mediation skills, publishing written policies that communicate a zero-tolerance policy and specific guidelines with clear procedures and protocols for reporting workplace bullying (Rayner & Lewis, 2011; Vartia & Leka, 2011) are promising ways to minimize bullying incidents and its negative effects in the first place. However, employers should implement measures that reduce bullying incidents as well as measures that empower victims to cope with this stressor and to end it. Helping employees to deal effectively with this incident will buffer the negative effect of workplace bullying exposure and reduce their experienced frustration of basic needs, preserving their well-being, vigor and work performance and, eventually, prevent burnout.

On the other hand, "just wait and see" without doing nothing is likely to have detrimental consequences (e.g., Sischka, Schmidt, & Steffgen, 2018). Without organizational measures that aim at preventing workplace bullying or with measures that do not function adequately, the target may ultimately blame the organization for their situation. This attribution process may increase feelings of psychological contract violation resulting in lower job satisfaction and even turnover intentions. Therefore, the employees must be given the feeling that someone in the organization cares for their situation and will take appropriate steps against

workplace bullying. Employers can train their supervisors to adopt a management style that takes employees' individual basic needs into consideration, for instance transformational leadership style (Deci et al., 2017) or autonomy-supportive management style (Hardré & Reeve, 2009).

5.7.3. Limitations and outlook

Some limitations of the present study need to be considered that provide directions for future research. First, the cross-sectional nature of the study does not allow for causal interpretations. For instance, employees with low work engagement might be at a greater risk of being exposed to negative behaviors from colleagues or supervisor resulting in feelings of psychological contract violation. Note, however, that the tested model is consistent both with previous theorizing (e.g., Salin & Notelaers, 2017, Trépanier et al., 2013) and empirical results of experimental (Kakarika et al., 2017) and longitudinal studies on psychological contract breach and violation (Bal, De Lange, Jansen, & Der Velde, 2013; Bordia et al., 2008; Clinton & Guest, 2014) and longitudinal studies on basic psychological needs (Trépanier et al., 2015, 2016). Particularly, Trépanier et al. (2016) have already shown the longitudinal effects of workplace bullying exposure on basic need frustration. Nevertheless, future research should apply a three-wave longitudinal design that allows for (a) identification of a causal order among the variables tested, and (b) confirmation of the mediation model postulated here. A longitudinal design will also provide information on the development of the different effects over time.

Second, an additional limitation is the mono-method design, as only self-reported measures were employed. We cannot fully rule out the possibility that this may have led to an overrating of the effects (i.e., common method variance; Podsakoff, MacKenzie, & Podsakoff, 2012). However, Conway and Lance (2010) stated that under certain conditions, self-reports can be acceptable or even necessary, especially when there is evidence of construct validity, a lack of overlap in items for different constructs and when tested for common method bias. In the present study, the confirmatory factor analyses revealed that the proposed 12-factor model showed the best fit to the data. This substantiates the construct validity and the absence of larger amounts of item overlapping. Apparently, respondents were reasonably able to conceptually distinguish between constructs. Furthermore, many constructs like psychological contract violation, basic need frustration or job satisfaction are necessarily subjective which makes self-reports appropriate (Conway & Lance, 2010). In contrast, this is not necessarily the case for the measures of work motivation, work performance and workplace deviance that may be suffer

from greater influence by social desirability. Therefore, analyses for these outcome variables need to be seen more critically. Future research should utilize multiple preferably behavioral data sources to provide insight into inter-rater reliability and, thus, come to more objective data.

Third, a lack of generalizability of the findings may result from the convenience sample in the MTurk approach. It is unclear if MTurk workers are representative of the population of interest at large, because they are all internet users, which differ on a number of variables (Paolacci & Chandler, 2014). Indeed, MTurk worker tend to be younger, better educated, more liberal, and less religious compared to nationally representative U.S. samples (Berinsky et al., 2012). However as Landers and Behrend (2015) pointed out, this lack of representativeness is not limited to MTurk samples, but also a common concern in other convenience sampling methods used in organizational psychology studies, including organizational samples. Compared to other convenient sampling strategies MTurk has the advantage of providing easy access to a more heterogeneous employment population. Therefore, findings are not just limited to only one type of industry. This makes MTurk ideal for testing organizational theories expected to be broadly applicable across different organizational settings (Cheung et al., 2017) as it is the case in the present study. Nevertheless, future studies should test the proposed model in other populations and with other samples.

Finally, high multicollinearity between predictors or mediators (as was found in the present study) has the potential to inflate Type II error rates (Grewal, Cote, & Baumgartner, 2004). However, given the high reliability of our measures (ω between .79 and .95) and the large sample size that counter multicollinearity effects (Grewal et al., 2004) we are confident that estimates are accurate.

5.7.4. Conclusion

The present study furthers the understanding of psychological mechanisms that underlie the relation between workplace bullying exposure and its effects on health, work-related attitude, and behavior. Based on social exchange theory and self-determination theory different mediators (i.e., psychological contract violation, frustration of autonomy, competence, relatedness) were identified as psychological mechanisms that link workplace bullying exposure and its negative consequences.

5.8. References

Aquino, K., & Thau, S. (2009). Workplace victimization: Aggression from the target's perspective. *Annual Review of Psychology, 60*, 717-741. Doi: 10.1146/annurev.psych.60.110707.163703

Aselage, J., & Eisenberger, R. (2003). Perceived organizational support and psychological contracts: A theoretical integration. *Journal of Organizational Behavior*, *24*, 491–509. Doi: 10.1002/job.211

Bakker, A. B., Schaufeli, W. B., Sixma, H. J., Bosveld, W., & Van Dierendonck, D. (2000). Patient demands, lack of reciprocity, and burnout: A five-year longitudinal study among general practitioners. *Journal of Organizational Behavior, 21*, 425–441. Doi: 10.1002/(sici)1099-1379(200006)21:4<425::aid-job21>3.0.co;2-#

Bal, P. M., De Lange, A. H., Jansen, P. G., & Van Der Velde, M. E. (2008). Psychological contract breach and job attitudes: A meta-analysis of age as a moderator. *Journal of Vocational Behavior, 72*, 143–158. Doi: 10.1016/j.jvb.2007.10.005

Bal, P. M., Chiaburu, D. S., & Jansen, P. G. (2010). Psychological contract breach and work performance: Is social exchange a buffer or an intensifier? *Journal of Managerial Psychology, 25*, 252–273. Doi: 10.1108/02683941011023730

Bal, P. M., De Lange, A. H., Jansen, P. G. W., & Der Velde, M. E. G. (2013). A longitudinal study of Age-Related differences in reactions to psychological contract breach. *Applied Psychology, 62*, 157–181. Doi: 10.1111/j.1464-0597.2012.00524.x

Bartholomew, K. J., Ntoumanis, N., Ryan, R. M., & Thøgersen-Ntoumani, C. (2011). Psychological need thwarting in the sport context: Assessing the darker side of athletic experience. *Journal of Sport and Exercise Psychology, 33*, 75–102. Doi: 10.1123/jsep.33.1.75

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117*, 497–529. Doi: 10.1037//0033-2909.117.3.497

Bennett, R. J., & Robinson, S. L. (2000). Development of a measure of workplace deviance. *Journal of Applied Psychology, 85*, 349–360. Doi: 10.1037//0021-9010.85.3.349

Berinsky, A. J., Huber, G. A., & Lenz, G. S. (2012). Evaluating online labor markets for experimental research: Amazon.com's Mechanical Turk. *Political Analysis, 20*, 351–368. Doi: 10.1093/pan/mpr057

Bordia, P., Restubog, S. L. D., & Tang, R. L. (2008). When employees strike back: investigating mediating mechanisms between psychological contract breach and workplace deviance. *Journal of Applied Psychology, 93*, 1104–1117. Doi: 10.1037/0021-9010.93.5.1104

Bowling, N. A., & Beehr, T. A. (2006). Workplace harassment from the victim's perspective: a theoretical model and meta-analysis. *Journal of Applied Psychology, 91,* 998–1012. Doi: 10.1037/0021-9010.91.5.998

Bowling, N. A., & Hammond, G. D. (2008). A meta-analytic examination of the construct validity of the Michigan Organizational Assessment Questionnaire Job Satisfaction Subscale. *Journal of Vocational Behavior, 73*, 63–77. Doi: 10.1016/j.jvb.2008.01.004

Buhrmester, M., Kwang, T., & Gosling, S. D. (2011). Amazon's Mechanical Turk: A new source of inexpensive, yet high-quality, data? *Perspectives on Psychological Science, 6*, 3–5. Doi: 10.1177/1745691610393980

Cammann, C., Fichman, M., Jenkins, G. D., & Klesh, J. (1983). Michigan Organizational Assessment Questionnaire. In S. E. Seashore, E. E. Lawler, P. H. Mirvis, & C. Cammann (Eds.), *Assessing organizational change: A guide to methods, measures, and practices* (pp. 71–138). New York: Wiley-Interscience.

Cassar, V., & Buttigieg, S. C. (2015). Psychological contract breach, organizational justice and emotional well-being. *Personnel Review, 44*, 217–235. Doi: 10.1108/PR-04-2013-0061

Chandler, J. J., & Paolacci, G. (2017). Lie for a dime: When most prescreening responses are honest but most study participants are impostors. *Social Psychological and Personality Science, 8*, 500–508. Doi: 10.1177/1948550617698203

Chandler, J., & Shapiro, D. (2016). Conducting clinical research using crowdsourced convenience samples. *Annual Review of Clinical Psychology, 12*, 53–81. Doi: 10.1146/annurev-clinpsy-021815-093623

Cheung, M. W. (2007). Comparison of approaches to constructing confidence intervals for mediating effects using structural equation models. *Structural Equation Modeling, 14*, 227–246. Doi: 10.1080/10705510709336745

Cheung, M. W. (2009). Comparison of methods for constructing confidence intervals of standardized indirect effects. *Behavior Research Methods, 41*, 425–438. Doi: 10.3758/brm.41.2.425

Cheung, J. H., Burns, D. K., Sinclair, R. R., & Sliter, M. (2017). Amazon Mechanical Turk in organizational psychology: An evaluation and practical recommendations. *Journal of Business and Psychology, 32*, 347–361. Doi: 10.1007/s10869-016-9458-5

Cropanzano, R., & Mitchell, M. S. (2005). Social exchange theory: An interdisciplinary review. *Journal of Management, 31*, 874–900. Doi: 10.1177/0149206305279602

Crump, M. J. C., McDonnell, J. V., & Gureckis, T. M. (2013). Evaluating Amazon's Mechanical Turk as a tool for experimental behavioral research. *PloS one, 8*, e57410. Doi: 10.1371/journal.pone.0057410

Davison, A. C., & Hinkley, D. V. (1997). *Bootstrap methods and their application*. Cambridge: University Press.

Deci, E. L., Olafsen, A. H., & Ryan, R. M. (2017). Self-determination theory in work organizations: The state of a science. *Annual Review of Organizational Psychology and Organizational Behavior, 4*, 19–43. Doi: 10.1146/annurev-orgpsych-032516-113108

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*, 227–268. Doi: 10.1207/s15327965pli1104_01

Deci, E. L., & Ryan, R. M. (2008). Facilitating optimal motivation and psychological well-being across life's domains. *Canadian Psychology, 49*, 14–23. Doi: 10.1037/0708-5591.49.1.14

DeSimone, J. A., & Harms, P. D. (2017). Dirty Data: The Effects of Screening Respondents Who Provide Low-Quality Data in Survey Research. *Journal of Business and Psychology*. Advanced online publication. Doi: 10.1007/s10869-017-9514-9

Einarsen, S., & Skogstad (1996). Bullying at work: Epidemiological findings in public and private organizations. *European Journal of Work and Organizational Psychology, 5*, 185–201. Doi: 10.1080/13594329608414854

Einarsen, S., Hoel, H., & Notelaers, G. (2009). Measuring exposure to bullying and harassment at work: Validity, factor structure and psychometric properties of the Negative Acts Questionnaire-Revised. *Work & Stress*, *23*, 24–44. Doi: 10.1080/02678370902815673

Falk, C. F., & Biesanz, J. C. (2015). Inference and interval estimation methods for indirect effects with latent variable models. *Structural Equation Modeling*, *22*, 24–38. Doi:

Finney, S. J., & DiStefano, C. (2013). Nonnormal and categorial data in structural equation modeling. In G. R. Hancock & R. O. Mueller (Eds.), *Structural equation modeling – a second course. 2. Ed.* (pp. 439–492). Charlotte, NC: Information Age Publishing.

Grewal, R., Cote, J. A., & Baumgartner, H. (2004). Multicollinearity and measurement error in structural equation models: Implications for theory testing. *Marketing Science, 23*, 519–529. Doi: 10.1287/mksc.1040.0070

Guest, D. E., & Conway, N. (2009). Health and well-being: The role of the psychological contract. In C. L. Cooper J. C. Quick and M. J. Schabracq, (Eds.), *International handbook of work and health psychology. 3. Ed.* (pp. 9-23). Hoboken, NJ: John Wiley & Sons.

Gouldner, A. W. (1960). The norm of reciprocity: A preliminary statement. A*merican Sociological Review, 25*, 161–178. Doi: 10.2307/2092623

Hardré, P. L., & Reeve, J. (2009). Training corporate managers to adopt a more autonomy-supportive motivating style toward employees: an intervention study. *International Journal of Training and Development, 13*, 165–184. Doi: 10.1111/j.1468-2419.2009.00325.x

Hassard, J., Teoh, K. R. H., Visockaite, G., Dewe, P., & Cox, T. (2017). The financial burden of psychosocial workplace aggression: A systematic review of cost-of-illness studies. *Work & Stress*. Advanced online publication. Doi: 10.1080/02678373.2017.1380726

Hauge, L. J., Skogstad, A., & Einarsen, S. (2010). The relative impact of workplace bullying as a social stressor at work. *Scandinavian Journal of Psychology, 51*, 426-433. Doi: 10.1111/j.1467-9450.2010.00813.x

Herschcovis, M. S., & Barling, J. (2010). Towards a multi-foci approach to workplace aggression: A meta-analytic review of outcomes from different perpetrators. *Journal of Organizational Behavior, 31*, 24-44. Doi: 10.1002/job.621

Hogh, A., Hoel, H., & Caneiro, I. G. (2011). Bullying and employee turnover among healthcare workers: a three-wave prospective study. *Journal of Nursing Management, 19*, 742–751. Doi: 10.1111/j.1365-2834.2011.01264.x

Høgh, A., Mikkelsen, E. G., & Hansen, A. M. (2011). Individual consequences of workplace bullying/mobbing. In S. Einarsen, H. Hoel, D. Zapf, & C. L. Cooper (Eds.), *Bullying and*

harassment in the workplace. Developments in theory, research, and practice (2nd ed., pp. 107–128). Boca Raton, FL: CRC Press.

Jamil, A., Raja, U., & Darr, W. (2013). Psychological contract types as moderator in the breach-violation and violation-burnout relationships. *The Journal of Psychology*, *147*, 491–515. Doi: 10.1080/00223980.2012.717552

Kakarika, M., González-Gómez, H. V., & Dimitriades, Z. (2017). That wasn't our deal: A psychological contract perspective on employee responses to bullying. *Journal of Vocational Behavior, 100*, 43–55. Doi: 10.1016/j.jvb.2017.02.005

Keith, M. G., Tay, L., & Harms, P. D. (2017). Systems perspective of Amazon Mechanical Turk for organizational research: Review and recommendations. *Frontiers in Psychology, 8*, 1359. Doi: 10.3389/fpsyg.2017.01359

Kline, R. B. (2016). *Principles and practice of structural equation modeling. 4. Ed*. New York: Guilford Press.

Kristensen, T. S., Borritz, M., Villadsen, E., & Christensen, K. B. (2005). The Copenhagen Burnout Inventory: A new tool for the assessment of burnout. *Work & Stress, 19*, 192–207. Doi: 10.1080/02678370500297720

Landers, R. N., & Behrend, T. S. (2015). An inconvenient truth: Arbitrary distinctions between organizational, Mechanical Turk, and other convenience samples. *Industrial and Organizational Psychology, 8*, 142–164. Doi: 0.1017/iop.2015.13

Lian, H., Ferris, D. L., & Brown, D. J. (2012). Does taking the good with the bad make things worse? How abusive supervision and leader-member exchange interact to impact need satisfaction and organizational deviance. *Organizational Behavior and Human Decision Processes, 117*, 41–52. Doi: 10.1016/j.obhdp.2011.10.003

Litman, L., Robinson, J., & Abberbock, T. (2017). TurkPrime.com: A versatile crowdsourcing data acquisition platform for the behavioral sciences. *Behavior Research Methods*, *49*, 433–442. Doi: 10.3758/s13428-016-0727-z

Little, T. D. (2013). *Longitudinal structural equation modeling*. New York, NY: Guilford Press.

Little, T. D., Slegers, D. W., & Card, N. A. (2006). A non-arbitrary method of identifying and scaling latent variables in SEM and MACS models. *Structural Equation Modeling, 13*, 59–72. Doi: 10.1207/s15328007sem1301_3

MacKinnon, D. P., Coxe, S., & Baraldi, A. N. (2012). Guidelines for the investigation of mediating variables in business research. *Journal of Business and Psychology*, *27*, 1–14. Doi: 10.1007/s10869-011-9248-z

Mason, W., & Suri, S. (2012). Conducting behavioral research on Amazon's Mechanical Turk. *Behavior Research Methods*, *44*, 1–23. Doi: 10.3758/s13428-011-0124-6

McGonagle, A. K., Huang, J. L., & Walsh, B. M. (2016). Insufficient effort survey responding: An under-appreciated problem in work and organisational health psychology research. *Applied Psychology, 65*, 287–321. Doi: 10.1111/apps.12058

Michel, J. S., O'Neill, S. K., Hartman, P., & Lorys, A. (2017). Amazon's Mechanical Turk as a Viable Source for Organizational and Occupational Health Research. *Occupational Health Science*. Advanced online publication. Doi: 10.1007/s41542-017-0009-x

Montes, S. D., & Zweig, D. (2009). Do promises matter? An exploration of the role of promises in psychological contract breach. *Journal of Applied Psychology, 94*, 1243–1260. Doi: 10.1037/a0015725

Morrison, E. W., & Robinson, S. L. (1997). When employees feel betrayed: A model of how psychological contract violation develops. *Academy of Management Review, 22*, 226–256. Doi: 10.2307/259230

Nielsen, M. B., & Einarsen, S. (2012). Outcomes of exposure to workplace bullying: A meta-analytic review. *Work & Stress, 26,* 309–332. Doi: 10.1080/02678373.2012.734709

Notelaers, G., & Einarsen, S. (2008). *The construction and validation of the Short – Negative Acts Questionnaire*. Paper presented at 6th International Conference on Workplace Bullying, June 4–6, 2008, Montreal, Canada.

Notelaers, G., Hoel, H., van der Heijden, B., & Einarsen, S. (2018). Measuring bullying at work with the Short-Negative Acts Questionnaire: Identification of Targets and Criterion Validity. *Work & Stress*. Advanced online publication. Doi: 10.1080/02678373.2018.1457736

Olafsen, A. H., Niemiec, C. P., Halvari, H., Deci, E. L., & Williams, G. C. (2017). On the dark side of work: a longitudinal analysis using self-determination theory. *European Journal of Work and Organizational Psychology*, *26*, 275–285. Doi: 10.1080/1359432x.2016.1257611

Paolacci, G., & Chandler, J. (2014). Inside the turk: Understanding Mechanical Turk as a participant pool. *Current Directions in Psychology Science, 23*, 184–188.

Parzefall, M. R., & Salin, D. M. (2010). Perceptions of and reactions to workplace bullying: A social exchange perspective. *Human Relations*, *63*, 761–780. Doi: 10.1177/0018726709345043

Rai, A., & Agarwal, U. A. (2016). Workplace bullying: A review and future research directions. *South Asian Journal of Management, 23*, 27–56.

Rai, A., & Agarwal, U. A. (2017). Linking Workplace Bullying and Work Engagement: The Mediating Role of Psychological Contract Violation. *South Asian Journal of Human Resources Management, 4*, 42–71. Doi: 10.1177/2322093717704732

Rai, A., & Agarwal, U. A. (2018). A review of literature on mediators and moderators of workplace bullying: Agenda for future research. *Management Research Review*. Advanced online publication. Doi: 10.1108/MRR-05-2016-0111

Rayner, C., & Lewis, D. (2011). Managing workplace bullying. The role of policies. In S. Einarsen, H. Hoel, D. Zapf, & C. L. Cooper (Eds.), *Bullying and harassment in the workplace. Developments in theory, research, and practice* (2nd ed., pp. 327–340). Boca Raton, FL: CRC Press.

Rayton, B. A., & Yalabik, Z. Y. (2014). Work engagement, psychological contract breach and job satisfaction. *The International Journal of Human Resource Management*, *25*, 2382–2400. Doi: 10.1080/09585192.2013.876440

Rigotti, T. (2009). Enough is enough? Threshold models for the relationship between psychological contract breach and job-related attitudes. *European Journal of Work and Organizational Psychology, 18*, 442–463. Doi: 10.1080/13594320802402039

Robinson, S. L., & Morrison, E. W. (2000). The development of psychological contract breach and violation: A longitudinal study. *Journal of Organizational Behavior, 21*, 525–546. Doi: 10.1002/1099-1379(200008)21:5<525::aid-job40>3.0.co;2-t

Rodríguez-Muñoz, A., Moreno-Jiménez, B., & Sanz-Vergel, A. I. (2015). Reciprocal relations between workplace bullying, anxiety, and vigor: a two-wave longitudinal study. *Anxiety, Stress, & Coping*, *28*, 514–530. Doi: 10.1080/10615806.2015.1016003

Rousseau, D. M. (1995). *Psychological contracts in organizations: Understanding written and unwritten agreements*. Thousand Oaks, CA: Sage.

Rousseau, D. M. (2001). Schema, promise and mutuality: The building blocks of the psychological contract. *Journal of Occupational and Organizational Psychology, 74*, 511–541. Doi: 10.1348/096317901167505

Ryan, R. M. (1995). Psychological needs and the facilitation of integrative processes. *Journal of Personality, 63*, 397–427. Doi: 10.1111/j.1467-6494.1995.tb00501.x

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*, 68–78. Doi: 10.1037//0003-066x.55.1.68

Salin, D., & Notelaers, G. (2017). The effect of exposure to bullying on turnover intentions: the role of perceived psychological contract violation and benevolent behaviour. *Work & Stress, 31*, 355-374. Doi: 10.1080/02678373.2017.1330780

Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire a cross-national study. *Educational and Psychological Measurement, 66*, 701–716. Doi: 10.1177/0013164405282471

Shore, L. M., Tetrick, L. E., Lynch, P., & Barksdale, K. (2006). Social and economic exchange: Construct development and validation. *Journal of Applied Social Psychology*, *36*, 837–867. Doi: 10.1111/j.0021-9029.2006.00046.x

Sischka, P. E., Décieux, J. P., Mergener, A., Neufang, K. M., & Schmidt, A. F. (2018). *The impact of forced answering and reactance on answering behavior in online surveys*. Manuscript submitted for publication.

Sischka, P. E., Schmidt, A. F., & Steffgen, G. (in press). Further evidence for criterion validity and measurement invariance of the Luxembourg Workplace Mobbing Scale. *European Journal of Psychological Assessment*.

Sischka, P. E., Schmidt, A. F., & Steffgen, G. (2018). *Competition and Workplace Bullying. The moderating role of passive avoidant leadership style*. Manuscript submitted for publication.

Sjöberg, A., & Sverke, M. (2000). The interactive effect of job involvement and organizational commitment on job turnover revisited: A note on the mediating role of turnover intention. *Scandinavian Journal of Psychology, 41*, 247–252. Doi: 10.1111/1467-9450.00194

Suazo, M. M. (2009). The mediating role of psychological contract violation on the relations between psychological contract breach and work-related attitudes and behaviors. *Journal of Managerial Psychology, 24*, 136–160. Doi: 10.1108/02683940910928856

Topp, C. W., Østergaard, S. D., Søndergaard, S., & Bech, P. (2015). The WHO-5 Well-Being Index: A Systematic Review of the Literature. *Psychotherapy and Psychosomatics, 84*, 167–176. Doi: 10.1159/000376585

Trépanier, S. G., Fernet, C., & Austin, S. (2013). Workplace bullying and psychological health at work: The mediating role of satisfaction of needs for autonomy, competence and relatedness. *Work & Stress, 27*, 123-140. Doi: 10.1080/02678373.2013.782158

Trépanier, S. G., Fernet, C., & Austin, S. (2015). A longitudinal investigation of workplace bullying, basic need satisfaction, and employee functioning. *Journal of Occupational Health Psychology*, *20*, 105–116. Doi: 10.1037/a0037726

Trépanier, S. G., Fernet, C., & Austin, S. (2016). Longitudinal relationships between workplace bullying, basic psychological needs, and employee functioning: a simultaneous investigation of psychological need satisfaction and frustration. *European Journal of Work and Organizational Psychology*, *25*, 690–706. Doi: 10.1080/1359432X.2015.1132200

Van den Broeck, A., Ferris, D. L., Chang, C. H., & Rosen, C. C. (2016). A review of self-determination theory's basic psychological needs at work. *Journal of Management*, *42*, 1195–1229. Doi: 10.1177/0149206316632058

Vansteenkiste, M., & Ryan, R. M. (2013). On psychological growth and vulnerability: Basic psychological need satisfaction and need frustration as a unifying principle. *Journal of Psychotherapy Integration*, *23*, 263-280. Doi: 10.1037/a0032359

Vartia, M., & Leka, S. (2011). Interventions for the prevention and management of bullying at work. In S. Einarsen, H. Hoel, D. Zapf, & C. L. Cooper (Eds.), *Bullying and harassment in the workplace. Developments in theory, research, and practice* (2nd ed., pp. 359–379). Boca Raton, FL: CRC Press.

Vie, T. L., Glasø, L., & Einarsen, S. (2010). Does trait anger, trait anxiety or organisational position moderate the relationship between exposure to negative acts and self-labelling as a victim of workplace bullying? *Nordic Psychology, 62*, 67–79. Doi: 10.1027/1901-2276/a000017

Weiss, H. M., & Cropanzano, R. (1996). Affective events theory: A theoretical discussion of the structure, causes and consequences of affective experiences at work. In Staw B. M., Cummings L. L. (Eds.), *Research in organizational behavior: An annual series of analytical essays and critical reviews*, 18. (pp. 1–74). Elsevier Science/JAI Press.

World Health Organization. Regional Office for Europe (1998) Well-Being measures in primary health care: The DiabCare Project. In *Consensus meeting, Stockholm*.

Yuan, K.H. & Bentler, P.M. (2000). Three likelihood-based methods for mean and covariance structure analysis with nonnormal missing data. In M.E. Sobel & M.P. Becker (eds.), *Sociological Methodology 2000, 30* (pp. 165-200). Washington, D.C.: ASA.

Zhao, H. A. O., Wayne, S. J., Glibkowski, B. C., & Bravo, J. (2007). The impact of psychological contract breach on work-related outcomes: a meta-analysis. *Personnel Psychology, 60*, 647–680. Doi: 10.3724/sp.j.1042.2012.01296

6. Final Discussion

The aim of the present thesis was to contribute to the field of workplace bullying research by addressing open research questions and problems related to three areas: Measurement issues, antecedents as well as consequences of workplace bullying. The first two studies described the development and validation of a new short workplace mobbing/bullying scale that can be used in different language contexts. The third study explored the role of competition and passive avoidant leadership style as antecedents of workplace bullying. Finally, the fourth study investigated the psychological mechanisms that explain the link between workplace bullying exposure and health and work-related attitudes and behavior. In the following, the findings of each study will be summarized and implications will be discussed. Subsequently, the methodological strength and limitations will be evaluated. Finally, avenues for future research on workplace bullying will be discussed.

6.1. Summary of findings and implications

6.1.1. Measurement issues and assessment of risk groups

A literature review revealed that many self-report inventories of workplace mobbing/bullying exposure, using the *behavioral experience method* exists. However, some weaknesses of these existing scales have been identified (e.g., questionnaire length, only tested in selective samples, lack of psychometric and invariance tests). Thus, the aim of study 1 (Chapter 2) was to develop a short scale, the Luxembourg Workplace Mobbing Scale (LWMS) that overcomes these weaknesses and that covers the theoretical definition of workplace mobbing/bullying. The LWMS revealed good psychometric properties in terms of its internal consistency and its factor structure. Furthermore, metric and partial scalar invariance across the three language versions (i.e., Luxembourgish, French, German) could be established. Initial validation tests revealed high criterion validity. In line with recent workplace bullying research, the LWMS was meaningfully linked with other working factors and measures of psychological health. These associations were robust across the different language versions.

The aim of study 2 (Chapter 3) was to test the LWMS's factor structure and measurement invariance across possible risk groups of workplace bullying exposure and to further elucidate its nomological net with relevant psychological and physiological health measures as well as important organizational criteria (i.e., work performance, turnover intention, absenteeism). Based on recent theories and findings on workplace bullying exposure (e.g., Bowling & Beehr, 2006; Nielsen & Einarsen, 2012), several measures to expand analyses

on criterion validity and the nomological net of the LWMS were used. Specifically, it was hypothesized that the LWMS is negatively related to subjective psychological well-being, work engagement, sleeping hours, and work performance and positively related to physiological health problems, alcohol and smoking consumption, body mass index, suicidal thoughts, turnover intentions, absenteeism and self-labeling as mobbing/bullying victim. Evaluation of different measurement invariance models confirmed metric and (partial) scalar invariance across all compared groups. Neither age, gender, nor the most frequent areas of occupation in Luxembourg represented important risk factors for workplace bullying exposure. Regarding criterion validity, with the exceptions of alcohol and smoking consumption, all proposed psychological well-being and organizational criteria were meaningfully associated with the LWMS. Moreover, the correlations were similar to recent meta-analyses (Bowling & Beehr, 2006; Hershcovis & Barling, 2010; Nielsen & Einarsen, 2012).

Compared to many other exposure measures, the LWMS is a very short instrument, yet reliable and valid, therefore, suitable for multi-topic large-scale surveys and diary studies (Bolger, Davis, & Rafaeli, 2003). Furthermore, it could be used as a screening tool, which could be followed up with longer, more detailed measures for identified exposed employees (Smith et al., 2000). Moreover, due to the metric and (partial) scalar invariance regarding gender, age and occupation, the LWMS can be used to make meaningfully comparisons between men and women, age groups and different occupations. Additionally, due to the metric and partial scalar invariance across the language versions, the LWMS can be used in different language contexts and is therefore suitable for (some) cross-country comparisons.

One restriction of the LWMS is that it does not distinguish between supervisor and colleague as possible perpetrator. Research has shown that harassment by colleagues might have different effects than harassment by supervisors (Hershcovis & Barling, 2010). However, this can be easily fixed by asking the same questions for colleagues and then for supervisors. Due to the LWMS's briefness, this procedure would only result in 10 items that can still be regarded as a short measure. Moreover, the LWMS includes a conflict item (i.e., "How often do you have conflicts with your colleagues or your superior?"). As interpersonal conflicts are seen as related with, but distinguishable from workplace bullying exposure (Baillien, Escartín, Gross, & Zapf, 2017), one could hypothesize that this might threat construct validity. However, as Baillien et al. (2017) emphasized, the frequency of conflicts is one of the main characteristic that distinguish conflicts from bullying. Therefore, employees that score high on this item might be at risk of being a target of workplace bullying behavior. Furthermore, as interpersonal

conflicts are very often the starting point of the occurrence of workplace bullying exposure (e.g., Einarsen, Hoel, Zapf, & Cooper, 2011), this item might be especially sensitive to detect situations that might be at the edge between a conflict and a workplace bullying incident. However, in situations where the detection of false-positive workplace bullying incidents are worse than false-negatives, one could easily increase the cut-off point of the LWMS that mark an employee as a target of bullying behavior (i.e., increase specificity at the costs of decreased sensitivity; see Figure 3-1, p. 146).

6.1.2. Risk factors of workplace bullying

Inspired by the '*work environment hypothesis*' (e.g., Agervold, 2009), the aim of study 3 (Chapter 4) was to test specific organizational risk factors of the occurrence of workplace bullying. Specifically, competition and passive avoidant leadership style were tested as risk factors of workplace bullying (exposure and perpetration). Competition may lead to higher levels of pressure and stress, thus, lowering thresholds for aggression and facilitating workplace bullying (Salin, 2003). Additionally, under a high competitive climate the use of bullying behavior might be seen as a form of rational behavior (Ferris, Zinko, Brouer, Buckley, & Harvey, 2007) to keep present (and future) rivals down (Reh et al., 2017; Salin, 2003). Furthermore, a passive avoidant leadership that is characterized by passive avoidant behavior and absence of leadership (e.g., avoid decision making, delay actions, ignore and abdicate leader responsibilities, not responding to employee problems), might be another risk factor of workplace bullying. This kind of leadership is associated with many stressors, such as role conflict, role ambiguity and role overload (Barling & Frone, 2016) that have been repeatedly linked with the occurrence of bullying (e.g., Skogstad, Einarsen, Torsheim, Aasland, & Hetland, 2007). Moreover, in a high competitive climate the supervisor is responsible that competition does not lead to dysfunctional conflicts (i.e., relationship conflicts; Choi & Cho, 2011), that fairness rules are being applied (Tjosvold, Johnson, Johnson, & Sun, 2003) so that no illegitimate behavior is used and that competition does not promote rivalry, aggressive competition, and hypercompetitiveness that may lead to unethical behavior (Kilduff, Galinksy, Gallo, & Reade, 2016). However, passive avoidant leaders are characterized by not enforcing rules, monitoring subordinates or manage and intervene in dysfunctional conflicts (e.g., Bass & Riggio, 2006). Therefore, it was hypothesized and tested whether competition and passive avoidant leadership style are important risk factors of workplace bullying (exposure and perpetration) and whether these factors have an interaction effect on bullying. Specifically, it was hypothesized that supervisors with a high passive avoidant leadership style will exacerbate

the effect of competition on the occurrence of workplace bullying. Consistent with theoretical reasoning and prior research, results demonstrated that competition (e.g., Salin, 2003) as well as passive avoidant leadership (e.g., Skogstad et al., 2007) were important and strong risk factors of workplace bullying exposure, independent of the assessment method. Moreover, results showed that the same effects showed up for perpetration. Even more interesting, passive avoidant leadership style acted as a moderator on the effect of competition on workplace bullying exposure (assessed with self-labeling and behavioral method). In line with our expectation, competition was stronger related to workplace bullying exposure, when passive avoidant leadership is high. Thus, passive avoidant leadership can be considered a disruptive factor reinforcing the negative association with competition. Regarding workplace bullying perpetration the same moderation effect was only found for the self-labeled assessment method.

Study 3 points to the necessity that workplace bullying intervention strategies have to consider not only the individual/dyadic but also the group and organization levels (LaMontagne, Keegel, Louie, Ostry, & Landsbergis, 2007; Saam, 2010). Furthermore, competition and passive avoidant leadership style are two factors that can be directly addressed by organizations. Organizations can reduce workplace bullying incidents by reducing a) competition between employees and/or b) by training their supervisor to replace passive avoidant leadership behavior with more functional leadership behavior. Beside the inherent part of competition in organizations, organizations may reduce workplace bullying incidents by implementing cooperative rather than competitive goals for the employees.[49] As high competition may lead to situations where some employees experience threats to self-esteem (Vecchio, 2005) that is a risk factor of bullying perpetration (Zapf & Einarsen, 2011), employees should be given the feeling that they are competent even if they are getting outcompeted by colleagues. Moreover, in this situation employees should be give the feeling that they have the possibility to address the achievement gap. This can be highly motivating (Floyd, Hoogland, & Smith, 2016). Furthermore, applying fairness rules and transparency when contested resources (e.g., promotion) are rewarded might reduce malicious and increase benign envy between colleagues (Floyd et al., 2016). Especially, when competition between employees is high, it is important that the workplace climate and culture is intolerant of mistreatment (Yang, Caughlin, Gazica, Truxillo, & Spector, 2014) and that organizations communicate that bullying and abusive behavior is not tolerated (Rayner & Lewis, 2011; Vartia & Leka, 2011).

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[49] As employee's perceived indispensability for the team seems to be more important than social competition for effort gains in occupational teams (Hertel et al., 2018), implementing a cooperative goal structure might not lead to decreased performance.

Therefore, organizations can take countermeasures, such as description of bullying and clarification of responsibilities. Moreover, organizations should provide guidelines for targets, witnesses, persons accused of bullying, and persons in responsible positions. These guidelines should contain complaint procedures, information on support mechanisms, measures to monitor, evaluate and prevent bullying (Vartia & Leka, 2011). Moreover, organizations can implement a regular anti-bullying training (Fox & Stallworth, 2009; Woodrow & Guest, 2014). Especially the 'Civility, Respect, Engagement in the Workplace' (CREW) intervention seems to be an effective program to reduce incivility and bullying and increase respect between the employees (Leiter, Laschinger, Day, & Oore, 2011). Moreover, organizations should employ an effective feedback system that identify a potential bullying incident in its early phase (Vartia & Leka, 2011). Coaching of the perpetrators (Walsh, 2018) might also be a mean to reduce workplace bullying incidents. However, the use of coaching requires that the perpetrator has already been identified. Moreover, coaching might only be effective, when the bullying behavior is a result of lacking awareness and not the result of predatory bullying (Walsh, 2018). Additionally, leadership development training has been shown to be an effective intervention in occupational health psychology (Kelloway & Barling, 2010). Leadership styles that are characterized by ethical role modeling (i.e., being honest, trustworthy, fair, principled and transparent in decision making) and perspective taking may enhance subordinates' moral reasoning and decrease their unethical (Kish-Gephart et al., 2010) as well as increase their ethical behavior (Schaubroeck et al., 2012). Furthermore, malicious envy and detrimental competition in the workplace may effectively curtailed by a supervisor, who applies fairness rules (Floyd et al., 2016; Lopez, Sayer, & Cleary, 2017). Moreover, supervisors may be trained to detect workplace bullying incidents (Mikkelsen, Høgh, & Olesen, 2008). Thus, organizations can take action against bullying: "An organization can set the expectations and norms for behavior. Organizations can change the values, costs, and probability of outcomes associated with aggressive behavior" (Tarraf, Hershcovis, & Bowling, 2017, p. 361). As competition and passive avoidant leadership style are meaningfully linked with the occurrence of workplace bullying, workplace bullying risk assessment tools (see Vartia & Leka, 2011) should include these working conditions as risk factors.

6.1.3. Individual consequences of workplace bullying exposure

Finally, the aim of study 4 (Chapter 5) was to test theoretically plausible mechanisms that link workplace bullying exposure and its various negative effects on target's health, attitudes and behavior. Based on a social exchange perspective, psychological contract

violation, i.e., the affective response of a perceived psychological contract breach has been proposed as a possible mediator between being target of workplace bullying and its detrimental effects (e.g., Salin & Notelaers, 2017). When an employee becomes the target of permanent negative acts, the expectation of a safe work environment and being treated with respect and dignity would be violated. This becomes even more relevant, when the organization fails to stop this treatment. Furthermore, based on self-determination theory (Deci & Ryan, 2000), scholars have suggested that frustration of basic psychological needs might be a possible mediator between workplace bullying exposure and several negative outcomes (e.g., Trépanier, Fernet, & Austin, 2013). According to self-determination theory, humans have basic needs, i.e., need for autonomy, competence and relatedness that have to be satisfied in order to achieve optimal functioning. However, in a situation where workplace bullying occurs, these needs are not only not satisfied but rather thwarted. Therefore, the two hypothesized mechanisms were separate and simultaneously tested to see whether they independently predict the different outcome variables. Results showed that feelings of psychological contract violation and frustration of basic needs were independent mediators for well-being, work satisfaction, burnout, vigor, and turnover intentions, pointing to the individual contribution of both psychological mechanisms. However, when controlled for frustration of basic needs, feelings of psychological contract violation was no longer related to work performance.

The mediation effects found in study 4 may provide the explanation for some moderated relationships between workplace bullying exposure and different outcomes already reported in the literature. For instance, Einarsen, Skogstad, Rørvik, Lande and Nielsen (2016) found that a positively perceived climate for conflict management was associated with lower levels of workplace bullying exposure. Moreover, the perceived climate for conflict management also moderated the relationship between bullying exposure and engagement to the extent that this relationship only existed when the climate for conflict management was low. One could hypothesize that targets of workplace bullying who have positive perceptions of the climate for conflict management regard this as sufficient to deal effectively with the bullying incident. Therefore, no (strong) feelings of psychological contract violations will be triggered and no (strong) frustration of the employee's need for relatedness will follow. In line with this reasoning, Djurkovic, McCormack and Casimir (2008) showed that perceived organizational support moderated the effect of workplace bullying exposure on turnover intentions. The effect of workplace bullying exposure became non-significant with higher levels of perceived organizational support. Again, we may speculate that employees acknowledged the perceived organizational support as an effective way of the organization to deal with the bullying incident.

Through this organizational support, then, employees may have been suffering from basic need frustration only to a lesser degree.

The findings of study 4 have important implications for organizations. Helping employees to deal effectively with bullying incidents will buffer the negative effects of workplace bullying exposure and reduce their experienced frustration of basic needs, preserving their well-being, vigor and work performance and, eventually, prevent burnout. However, without organizational measures that aim at preventing workplace bullying incidents or with measures that do not function adequately, the targets may ultimately blame the organization for their situation. This attribution process may increase feelings of psychological contract violation resulting in lower job satisfaction and even turnover intentions. Therefore, the employees must be given the feeling that someone in the organization cares for their situation and will take appropriate steps against this mistreatment.

These findings can also guide possible theory-based secondary and tertiary stage interventions that aim to reverse or reduce the negative progression of the bullying incident, help the target to cope with the situation and restore his/her health (Vartia & Leka, 2011). The findings point to the importance that possible interventions take the basic needs of the targets of bullying exposure into account (Deci, Olafsen, & Ryan, 2017; Marescaux, De Winne, & Sels, 2013). Providing social support may buffer the target's frustration of relatedness. Furthermore, as the bullying exposure seems to shatter the target's trust in his/her own competence, the feeling of being competent has to be restored. Moreover, an intervention should restore employee's feeling of being autonomous. Finally, employee's trust in the organization has to be restored.

6.2. Strength and limitations of the studies

The strength and limitations that are specific to each study of this thesis were addressed in the respective discussion sections of the Chapters 2 to 5. Therefore, this section will mainly discuss the overarching strengths and limitations that the studies have in common and will not go into detail of each study's specific strengths and limitations.

A general strength of all studies concern the large sample sizes. Thus, the power to detect even small association was adequate. A larger sample size is also necessary to detect mediation (Fritz & MacKinnon, 2007) and moderation (Aguinis, 1995) effects compared to main effects. Furthermore, the studies in Chapter 2 and 3 used a representative sample of Luxembourgish employees. Therefore, the results in these studies can be generalized to the

general working population in Luxembourg. Moreover, some effects were replicated across the studies (e.g., the association of workplace bullying exposure with burnout, vigor, work performance, turnover intention and self-labeled bullying), providing operational replication (Schmidt, 2009). Additionally, taken all studies together, a large amount of associations has been researched, thus, expand our knowledge of the nomological net of the workplace bullying phenomenon.

One limitation that share all studies in Chapter 2 to 5 is the cross-sectional design that does not allow for inferring causality. Nevertheless, it is important to note that all models were consistent with previous theorizing and often previous studies have confirmed the hypothesized causal models with longitudinal and/or experimental designs (see Chapter 2 to 5) that are better suited to answer questions of causality (Eid, Gollwitzer, & Schmitt, 2017).

Furthermore, Chapter 2 to 5 all used only self-reports that may be prone to common method variance (e.g., Podsakoff, MacKenzie, & Podsakoff, 2012). However, the factor structure and the bivariate correlations were always as theoretically expected and consistent with previous studies. Nevertheless, future studies might employ multiple data sources (e.g., proxy reports from colleagues and supervisor, archival data) to gain a better understanding of the different perceptions of each person involved in the workplace bullying situation (see Coyne, Smith-Lee Chong, Seigne, & Randall, 2003; Nandkeolyar, Shaffer, Li, Ekkirala, & Bagger, 2014)

Moreover, another limitation of the studies of Chapter 4 and 5 is that a convenient sample was used. The non-random sampling had the advantage to obtain easy access to research participants with manageable costs and time. However, this procedure might have threaten external validity, as convenient samples are composed through an availability mechanism (Nielsen, Matthiesen, & Einarsen, 2010). Therefore, they often differ on a range of demographic variables, such as age, education, and occupation (Nielsen & Einarsen, 2008) but also on a range of attitudinal and behavioral variables (Hultsch, MacDonald, Hunter, Maitland, & Dixon, 2002; Peterson & Merunka, 2014). This might bias estimates of workplace bullying exposure and prevalence rates upwardly or downwardly (Nielsen et al., 2010). Furthermore, convenient samples may be different on variables that might be related to the variables under study. However, as Nielsen and Einarsen (2008) pointed out, such studies may not be adequate to estimate prevalence rates for countries but can still be used to investigate associations and, therefore, identify possible antecedents, consequences, and linking mechanisms of workplace bullying exposure. Furthermore, as already discussed in section 1.8,

using a convenience sample instead of a probability sample introduce the challenges of range restriction and omitted variables (Landers & Behrend, 2015). However, recent research on the MTurk population does not indicate that these challenges might strongly bias the findings.[50] Nevertheless, future studies should test the proposed model in other populations with other samples.

6.3. Future research

The studies presented in this thesis contributed to the knowledge and advancement of workplace bullying research in several ways. Nevertheless, the findings give rise to new questions and the need for further studies regarding measurement issues, risk factors and consequences of workplace bullying.

6.3.1. Measurement issues and assessment of risk groups

Due to the LWMS's briefness and (partial) scalar invariance across three language versions (Luxembourgish, German, French), the LWMS is a measure of workplace mobbing/bullying that is attractive for large-scale cross-cultural studies that lack of questionnaire space. Future studies might test the psychometric properties in further language versions (e.g., English, Spanish) and test if they are also (at least partial) scalar measurement invariant to the existing versions. This would increase the possibility to comparable assess workplace mobbing/bullying exposure in different language contexts.

Furthermore, as the scale is also (partial) scalar invariant across gender, age and occupation it is also useful to identify possible risk groups of workplace bullying exposure and to compare LWMS scores across gender, age and occupation. However, future research might also test measurement invariance for a wider range of less frequent occupational groups that could not be tested in study 2 due to sample size restrictions. Furthermore, the used level of aggregation of occupation, the ISCO-08 classification is quite coarse and aggregates rather different occupations like physician and nurses. Therefore, future studies might use a more disaggregated level of occupation to see if measurement invariance still holds.

Moreover, future studies should test the LWMS in different assessment contexts such as mail, online, or face-to-face surveys, as the measurement mode may have an influence on the psychometric properties (Fang, Wen, & Prybutok, 2014). Furthermore, measurement

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[50] The Amazon MTurk population has been researched in a number of studies regarding demographics (Berinsky, Huber, & Lenz, 2012; Buhrmester, Kwang, & Gosling, 2011; Huff & Tingley; Mason & Suri, 2012), but also (political) attitudes and psychological variables (Clifford, Jewell, & Waggoner, 2015; Huff & Tingley, 2015).

invariance may also be tested across mode of data collection as the assessment context may affect the interpretation of survey questions (Hox, De Leeuw, & Zijlmans, 2015).

Additionally, future studies might also use non-reactive data collection modes (e.g., archival data) or proxy reports (e.g., supervisor evaluation) to assess criterion variables (e.g., work performance) of the LWMS. Moreover, future studies might link the LWMS with physiological measures of stress such as concentrations of cortisol in the saliva (Hansen et al., 2006). This would further strengthen its criterion and construct validity (Eid et al., 2017).

Finally, the LWMS could also be tested as a short proxy-report scale for organizational members to classify others as possible bullying targets (Cowie, Naylor, Rivers, Smith, & Pereira, 2002). Good psychometric properties in this context would further increase its usefulness.

6.3.2. Risk factors of workplace bullying

Previous studies (including the studies in the present thesis) investigating possible risk factors of workplace bullying mostly employed a cross-sectional design (see also Neall & Tuckey, 2014). However, the diagnosed predictor-outcome overlap and perpetrator-target confusion in workplace bullying and aggression research (Hershcovis & Reich, 2013; see also Chapter 1.5) point to the importance of employing longitudinal designs that might entangle cause and consequence or reciprocal effects. A few studies investigating work environment risk factors used a longitudinal design (e.g., Reknes, Einarsen, Knardahl, & Lau, 2014). However, they yield some mixed results (e.g., Baillien et al., 2011; Hauge et al., 2011; see also Chapter 1.5). Furthermore, there are even fewer studies investigating mediation effects within a longitudinal design (for an exception see Dollard, Dormann, Tuckey, & Escartín, 2017). Therefore, more studies in the future might employ a longitudinal design to foster a better understanding of the mechanisms that link different work environment factors and the occurrence of workplace bullying.

Besides the need for longitudinal designs, future studies might also investigate possible mediation and moderation effects of the associations between competition, passive avoidant leadership style and workplace bullying. Regarding mediators, one explanation could be that the combination of high competition and a passive avoidant leadership style might lead to a low perceived organizational ethical climate. Employees' cognitive awareness of their organization's moral context may shape their attitudes toward the acceptability of workplace bullying and influence their actions. The importance of the individual and shared perception of organizational climate as predictor of different forms of workplace mistreatment has been

confirmed via meta-analytical evidence (Yang et al., 2014). Therefore, perceived organizational climate might be a mechanism that link competition and passive avoidant leadership style with the occurrence of workplace bullying.

Moreover, future studies might also investigate conditional effects that influence the association between competition and passive avoidant leadership style and workplace bullying. For instance, trait competitiveness and social comparison might be moderators that affect the association between competition and the occurrence of workplace bullying. Highly competitive employees might be more at risk of becoming bullying perpetrators as they have a greater "desire to win and be better than others" (Spence & Helmreich, 1983, p. 41). Therefore, superiority is central to competitive people's self-concept (Platow & Shave, 1995) and they feel threatened of colleagues' success (Greenbaum, Mawritz, & Eissa, 2012). Employing a person-fit perspective, Fletcher, Major and Davis (2008) found that trait competitiveness acted as moderator for the associations between competitive climate and attitudes, stress and performance, in that the effect of competitive climate was more negative for employees scoring low on trait competitiveness. The link between competitiveness and engaging in aggressive behavior is empirically supported by Jelinek and Ahearne (2010) who found that trait competitiveness is a predictor of interpersonal deviance when meaningfulness of work is low. Furthermore, Liu, Chi, Friedman and Tsai (2009) found that individual achievement orientation predicted workplace incivility. Moreover, Reh, Tröster and Van Quaquebeke (2017) found that trait competitiveness and social comparison predicted social undermining with future status threat and envy as mediators. Additionally, some scholars have suggested that a high level of political skills might be an antidote for employees working in organizations that are highly competitive and politicized (Ferris et al., 2005; Zhou et al., 2015). Political skill is defined as "the ability to effectively understand others at work and to use such knowledge to influence others to act in ways that enhance one's personal and/ or organizational objectives" (Ferris et al., 2005, p. 127). Political skill consists of social astuteness, interpersonal influence, networking ability, and apparent sincerity (Ferris et al., 2005). These abilities might help employees to gain advantages in interpersonal interactions and to obtain better work outcomes (Zhou et al., 2015). Indeed, studies have linked political skill with increased personal reputation (Laird et al., 2012; Liu et al., 2007) and higher performance ratings (Blickle et al., 2011, Ferris et al., 2005; Liu et al., 2007). Furthermore, Zhou, Yang and Spector (2015) found that political skill was linked with lower workplace aggression exposure. Moreover, Cullen, Fan and Liu (2014) found that political skill was linked with lower workplace conflict and being ostracized and that these effects were mediated through employee's popularity. Additionally, Bentley,

Treadway, Williams, Gazdag and Yang (2017) found that political skill moderated the effect of the perception of a victimizing work environment and work performance, in that political skilled employees exhibit no change or an increase in performance in a perceived victimizing work environment. Finally, Treadway, Shaughnessy, Breland, Yang and Reeves (2013) found that political skill also moderated the association between workplace bullying perpetration and job performance, in that the association was positive with high levels of political skill, non-significant at medium levels of political skill and negative with low levels of political skill. However, Harris, Harvey and Booth (2010) found that political skill was negatively related to coworker abuse. As political skills might be even more important in organizations that are highly competitive and politicized, employees with high political skills may also be less likely of becoming a target of workplace bullying, as they have high reputation (Cullen et al., 2014) and know how to organize alliance (Ferris et al., 2005).

Furthermore, another avenue for future workplace bullying research arise through the introduction of new technologies and the increasing importance of digitalization and the use of Information and Communication Technologies in the workplace (Vranjes, Baillien, Vandebosch, Erreygers, & De Witte, 2018). These technologies do not only fundamentally change the working contexts but also creates new possibilities and forms of workplace bullying behavior (Forssell, 2016; Vranjes, Baillien, Vandebosch, Erreygers, & De Witte, 2017). Future research might address if these new online-bullying forms have the same or different antecedents as their offline complement, specifically, if competition and a passive avoidant leadership style are also linked with the occurrence of cyberbullying at work.

6.3.3. Individual consequences of workplace bullying exposure

The predictor-outcome overlap is also present in the research stream of workplace bullying that investigates possible consequences of bullying exposure. Therefore, future research needs to employ a longitudinal design to gain a better understanding of the underlying mechanisms and pathways and to rule out alternative and theoretically plausible causal pathways. In doing so, one important aspect is the timing of measurement. The few existing studies used rather long time intervals, such as 6 months or 1 to 2 years and often only two measurement points (e.g., Trépanier, Fernet, & Austin, 2015, 2016). Importantly, the time lag considered in longitudinal studies is a critical element for the effects under research (Gerstorf, Hoppmann, & Ram, 2014). If the time lag is too short, the causal process has not yet had enough time to unfold itself. If the time lag is too long, the effect of the causal process has already disappeared or overlaps with other effects (Tarris, 2000; Lerner, Schwartz, Phelps, 2009). This

might explain the fact that Trépanier et al. (2015) who implemented a two-wave design with a 12-moth time lag did not found an effect of need satisfaction on subsequently burnout level. Furthermore, testing a longitudinal mediation with (only) two measurement points is better than a cross-sectional design to unmask possible causal paths. However, compared to a longitudinal mediation model with (at least) three measurement points, the longitudinal mediation with only two measurement points (so-called half-longitudinal model) rely on a number of key assumption about the nature of the mediation process that cannot be tested (Cole & Maxwell, 2003; Little, 2013). The assumption of stationarity refers to the unchanging causal structure among the variables under study. Furthermore, the half-longitudinal model assumes that the causal effects observed between the two measurement points would also emerge again if a third measurement point would have been realized. Moreover, it assumes that the selected time interval is optimal for revealing both effects, the association between predictor and mediator and the association between mediator and outcome variable (Little, 2013). Therefore, future studies on psychological mechanisms of workplace bullying exposure might implement a multi-wave design and shorter time intervals.

Future studies might also investigate possible moderation effects between workplace bullying exposure and psychological contract violation as well as between workplace bullying exposure and frustration of basic needs. Moderators between workplace bullying exposure and psychological contract violation may include target's perception and attribution of the bullying behavior, organizational and social support and target's individual characteristics. The target's perception and attribution of the bullying incidents have an impact on the emotional experience (Oh & Farh, 2017) and thus, on perceived psychological contract breach and feelings of violation. Especially, when the target attributes the bullying exposure to him-/herself, he/she should not perceive a psychological contract breach or violation. However, the attribution process might be influenced by the micro contextual characteristics of the negative acts (Nishina & Bellmore, 2010). For instance, more subtle bullying behavior might be less likely perceived as bullying behavior and will rather lead to confusion (Keashly, 2001; Samnani, Singh, & Ezzedeen, 2013) and to self-attribution of the target (Bowling & Beehr, 2006). Furthermore, situations with many perpetrators and not-reacting bystanders may also be more likely to elicit self-attribution (Nishina, 2012). Moreover, (perceived) organizational and social support might also influence the association between workplace bullying exposure and feelings of psychological contract violation, as perceived help from the organization might be acknowledged by the target as organizational effort to end the bullying behavior, thus, reduced the negative impact of bullying on feelings of contract violation (Parzefall & Salin, 2010).

Empirically, perceived organizational support and leader-member exchange, that is the perceived quality of the interpersonal social exchange relationship with one's supervisor, have been found to moderate the association between perceived psychological contract breach and psychological contract violation (Dulac, Coyle-Shapiro, Henderson, & Wayne, 2008). Some studies have found that perceived support from colleagues, supervisor and the organization buffered the negative effects of workplace bullying exposure on turnover intentions (Djurkovic, McCormack, & Casimir, 2008; Van Schalkwyk, Els, & Rothmann, 2011), job satisfaction (Carroll & Lauzier, 2014) and work effort and counterproductive work behavior (Sakurai & Jex, 2012). Additionally, individual characteristics may also play a role in the association between workplace bullying exposure and psychological contract violation. For instance, employees scoring high on neuroticism and negative affectivity might be more likely to perceive a certain behavior as bullying behavior (e.g., Bowling & Beehr, 2006; Brees, Mackey, Martinko, & Harvey, 2014; Nielsen & Knardahl, 2015). Empirically, neuroticism, equity sensitivity and locus of control are associated with feelings of psychological contract violation (Raja, Johns, & Ntalianis, 2004). Therefore, one could hypothesize that these variables may also act as moderators between workplace bullying and feelings of psychological contract violation.

Moderators between workplace bullying exposure and frustration of basic needs may also include individual dispositions of the targets, social support and the characteristics of the workplace bullying incident. Looking on individual dispositions, the concepts of psychological capital (Luthans, Youssef-Morgan, & Avolio, 2015), hardiness (Kobasa, 1979), and mindfulness (Brown & Ryan, 2003; Kabat-Zinn, 2003) seem to be promising candidates. Psychological capital describes a person's positive psychological state of development and is a composite construct, including optimism, hope, self-efficacy and resilience. Meta-analytical evidence showed that psychological capital was positively linked with job satisfaction, commitment, psychological well-being, and performance and negatively linked with cynicism, turnover intentions, and stress (Avey, Reichard, Luthans, & Mhatre, 2011). Moreover, psychological capital has been found to be a moderator between several stressor-strain associations. For instance, Abbas, Raja, Darr and Bouckenooghe (2013) found that psychological capital moderated the negative association between organizational politics and both, job performance and job satisfaction. Furthermore, Roberts, Scherer and Bowyer (2011) found that psychological capital moderated the association between job stress and enacting in uncivil behavior. Moreover, Cassidy, McLaughlin and McDowell (2014) revealed that psychological capital and social capital were mediators between workplace bullying exposure

and well-being and ill-being, respectively. Hardiness describes "an individual's predisposition to be resistant to the harmful effects of stressors and effectively adapt and cope with a demanding environment" (Eschleman, Bowling, & Alarcon, 2010). It is a multidimensional construct with control, challenge, and commitment as subcomponents (Delahaij, Gaillard, & van Dam, 2010; Kobasa, 1979). Hardy people believe that they are able to control experienced events, perceive difficult situations as challenges rather than threats and are self-committed (Delahaij et al., 2010). Meta-analytical evidence show that hardiness is related with decreased perceived stressors (e.g., work stressors, family conflict), decreased strain (e.g., depression, burnout) and more positive personality traits (e.g., optimism; Eschleman et al., 2010). Indeed, Reknes, Harris, and Einarsen (2018) found that hardiness was a strong moderator between the workplace bullying exposure and mental health association, in that hardy employees did not experience increased levels of anxiety with increased bullying exposure. One could hypothesize that this may be due to the unaffected basic needs. The concept of mindfulness has its roots in Buddhist and other contemplative traditions and describes a receptive psychological state in which one focuses attention on events that occur in the present moment (Brown & Ryan, 2003; Dane & Brummel, 2014; Schultz, Ryan, Niemiec, Legate, & Williams, 2015). Mindful individuals are less likely to add negative appraisals to challenging situations, and, thus, see stressful events as less threatening (Garland, Gaylord, & Fredrickson, 2011; Schultz et al., 2015). Mindfulness has been linked with several positive workplace outcomes, such as work engagement, well-being (Malinowski & Lim, 2015), work performance, and turnover intentions (Dane & Brummel, 2014). Moreover, mindfulness acted as moderator between the association of work climate and basic need frustration (Schultz et al., 2015). Summing these findings on psychological capital, hardiness and mindfulness up, one could hypothesize that these psychological constructs also might act as moderators between the association of workplace bullying exposure and basic need frustration. Moreover, the negative effects of workplace bullying exposure on basic need frustration might be buffered through any kind of social support provided by family, friends, colleagues or supervisor. Social support may buffer the need thwarting effects of experienced workplace bullying behavior. Some studies have found that social support buffered the negative effects of workplace bullying exposure on different outcomes such as, mental health (Warszewska-Makuch, Bedyńska, & Żołnierczyk-Zreda, 2015) and well-being (Sloan, 2012). Finally, the association between workplace bullying exposure and basic need frustration might also be influenced through the characteristics of the bullying exposure. The association between workplace bullying exposure and frustration of basic needs might be affected by the ability to defend oneself (Nielsen, Gjerstad, Jacobsen, &

Einarsen, 2017) that might be related to the position and number of the perpetrators. A perpetrator in a superior position might be able to constrain more easily the target's freedom, volition and self-endorsement of choices and actions (e.g., through giving unreasonable deadlines), and, therefore frustrate the target's need for autonomy. Furthermore, a perpetrator in a superior position may more easily frustrate the target's need for competence, for instance through removing key areas of responsibility or through ordering the target to do work below his/her level of competence. On the other hand, the more perpetrators are involved in the bullying process, the more might the bullying experience be related with frustration of the target's need for relatedness (Penhaligon, Restubog, & Louis, 2009).

Future studies might also research possible conditional effects that buffer or exacerbate the effects of psychological contract violation and basic need frustration on different outcomes. Feelings of psychological contract violation might lead to revenge cognitions that might translate into lower work performance and deviant behavior, especially when self-control of the respective person is low (Bordia, Restubog, & Tang, 2008). The negative behavioral reaction of an employee (e.g., lower work performance, more deviant behavior) who experiences feelings of psychological contract violation and in turn revenge cognitions might also be moderated by fear toward the perpetrator (Marcus-Newhall, Pedersen, Carlson, & Miller, 2000) that can lead to displaced aggression (Hoobler & Brass, 2006). Regarding conditional effects of basic need frustration and detrimental outcomes, need strength might moderate these relationships (e.g., McClelland, 1965). However, traditional SDT scholars (e.g., Deci & Ryan, 2000) have seen needs as innate and universal, thus, focused their research on need *satisfaction* or *frustration* rather than individual's need *strength* (Van den Broeck et al., 2016). However, others have challenged this view (e.g., Van Assche, van der Kaap-Deeder, Audenaert, De Schryver, & Vansteenkiste, 2018). Therefore, one could hypothesize that the mediation effect of basic need frustration that link workplace bullying with several detrimental outcomes might be moderated by an individual's need strength (e.g., Schüler, Sheldon, Prentice, & Halusic, 2016). Moreover, previous studies as well as the present study have only focused on main effects of basic need frustration on different outcomes. However, it has been hypothesized that there also may exist interactive effects between the satisfaction/frustration of the different needs and certain outcomes (e.g., Dysvik, Kuvaas, & Gagne, 2013).

Finally, the new Information and Communication Technologies and the increasing importance of digitalization that gave rise to cyberbullying may also influence the outcomes and psychological mechanisms of this special form of workplace bullying exposure. Initial

studies found that cyberbullying also has detrimental effects on the target's health, work-related attitudes and behavior (e.g., Coyne et al., 2017; Gardner et al., 2016; Kowalski, Toth, & Morgan, 2017; Muhonen, Jönsson, & Bäckström, 2017). Future research might address, if the same or other psychological mechanisms link cyberbullying and different detrimental outcomes (e.g., Muhonen et al., 2017), specifically, if psychological contract violation and basic need frustrations are the respective mediators.

6.4. Conclusion

Since the appearance of the book "The harassed worker" by Brodsky (1976) and the initial studies by Leymann, workplace bullying research has developed into a huge and still massively growing research area that is conducted all over the globe. Especially, when related concepts are considered, a vast amount of studies have researched level of exposure, prevalence, risk factors, consequences, and, very recently, psychological mechanisms of workplace bullying (exposure). This thesis contributed to the advancement of the workplace bullying research area in several ways. First, it investigated the psychometric properties and the validity of a new short scale (LWMS) and examined the measurement invariance properties of three different language versions of this scale. Furthermore, it sought to investigate the measurement invariance of the LWMS across gender, age, and occupational groups. In summary, the LWMS is especially useful, when the identification of risk groups or cross-cultural research is of concern. Second, the thesis further established the predictive role of competition and passive avoidant leadership style for workplace bullying exposure and perpetration. Moreover, it established an interactive effect of these risk factors on the occurrence of workplace bullying. Third, different psychological mechanisms (i.e., psychological contract violation and frustration of basic needs) that link workplace bullying exposure and health, attitudinal and behavioral outcomes were identified. Furthermore, their relative impact and importance on different outcomes were highlighted. Psychological contract violation was an important mediator for decreased job satisfaction and higher turnover intentions, whereas frustration of autonomy mediated the effect between workplace bullying exposure and increased levels of burnout, frustration of competence mediated the effect of bullying exposure on decreased work performance and frustration of relatedness was strongly associated with decreased well-being and vigor. The present thesis deepens our understanding of the organizational circumstances under which workplace bullying is more likely and the psychological mechanisms that link the bullying exposure with several outcomes. These results can guide possible prevention and intervention strategies.

6.5. References

Abbas, M., Raja, U., Darr, W., & Bouckenooghe, D. (2014). Combined effects of perceived politics and psychological capital on job satisfaction, turnover intentions, and performance. *Journal of Management, 40*, 1813-1830. Doi: 10.1177/0149206313495411

Agervold, M. (2009). The significance of organizational factors for the incidence of bullying. *Scandinavian Journal of Psychology, 50*, 267-276. Doi: 10.1111/j.1467-9450.2009.00710.x

Aguinis, H. (1995). Statistical power with moderated multiple regression in management research. *Journal of Management, 21*, 1141-1158. Doi: 10.1016/0149-2063(95)90026-8

Avey, J. B., Reichard, R. J., Luthans, F., & Mhatre, K. H. (2011). Meta-analysis of the impact of positive psychological capital on employee attitudes, behaviors, and performance. *Human Resource Development Quarterly, 22*, 127-152. Doi: 10.1002/hrdq.20070

Baillien, E., Rodriguez-Muñoz, A., Van den Broeck, A., & De Witte, H. (2011). Do demands and resources affect target's and perpetrators' reports of workplace bullying? A two-wave cross-lagged study. *Work & Stress, 25*, 128-146. Doi: 10.1080/02678373.2011.591600

Baillien, E., Escartín, J., Gross, C., & Zapf, D. (2017). Towards a conceptual and empirical differentiation between workplace bullying and interpersonal conflict. *European Journal of Work and Organizational Psychology, 26*, 870-881. Doi: 10.1080/1359432X.2017.1385601

Barling, J., & Frone, M. R. (2016). If only my leader would just do something! Passive leadership undermines employee well-being through role stressors and psychological resource depletion. *Stress & Health, 33*, 211–222. Doi: 10.1002/smi.2697

Bass, B.M., & Riggio, R.E. (2006). *Transformational leadership* (2nd ed.). Mahwah, NJ: Lawrence Erlbaum.

Bentley, J. R., Treadway, D. C., Williams, L. V., Gazdag, B. A., & Yang, J. (2017). The Moderating Effect of Employee Political Skill on the Link between Perceptions of a Victimizing Work Environment and Job Performance. *Frontiers in psychology, 8:850*. Doi: 10.3389/fpsyg.2017.00850

Berinsky, A. J., Huber, G. A., & Lenz, G. S. (2012). Evaluating online labor markets for experimental research: Amazon.com's Mechanical Turk. *Political Analysis, 20*, 351–368. Doi: 10.1093/pan/mpr057

Blickle, G., Ferris, G. R., Munyon, T. P., Momm, T., Zettler, I., Schneider, P. B., & Buckley, M. R. (2011). A multi-source, multi-study investigation of job performance prediction by political skill. *Applied Psychology, 60*, 449-474. Doi: 10.1111/j.1464-0597.2011.00443.x

Bolger, N., Davis, A., & Rafaeli, E. (2003). Diary methods: Capturing life as it is lived. *Annual Review of Psychology*, *54*, 579-616. Doi: 10.1146/annurev.psych.54.101601.145030

Bordia, P., Restubog, S. L. D., & Tang, R. L. (2008). When employees strike back: investigating mediating mechanisms between psychological contract breach and workplace deviance. Journal of Applied Psychology, 93, 1104-1117. Doi: 10.1037/0021-9010.93.5.1104

Bowling, N. A., & Beehr, T. A. (2006). Workplace harassment from the victim's perspective: a theoretical model and meta-analysis. *Journal of Applied Psychology, 91*, 998-1012. Doi: 10.1037/0021-9010.91.5.998

Brees, J., Mackey, J., Martinko, M., & Harvey, P. (2014). The mediating role of perceptions of abusive supervision in the relationship between personality and aggression. *Journal of Leadership & Organizational Studies, 21*, 403-413. Doi: 10.1177/1548051813505859

Brodsky, C. M. (1976). *The harassed worker*. Lexington, Mass: Lexington Books.

Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology, 84*, 822–848. Doi: 10.1037/0022-3514.84.4.822

Buhrmester, M., Kwang, T., & Gosling, S. D. (2011). Amazon's Mechanical Turk: A new source of inexpensive, yet high-quality, data? *Perspectives on Psychological Science, 6*, 3–5. Doi: 10.1177/1745691610393980

Carroll, T. L., & Lauzier, M. (2014). Workplace bullying and job satisfaction: The buffering effect of social support. Universal Journal of Psychology, 2, 81-89. Doi: 10.13189/ujp.2014.020205

Cassidy, T., McLaughlin, M., & McDowell, E. (2014). Bullying and health at work: The mediating roles of psychological capital and social support. *Work & Stress, 28*, 255-269. Doi: 10.1080/02678373.2014.927020

Choi, K., & Cho, B. (2011). Competing hypotheses analyses of the associations between group task conflict and group relationship conflict. *Journal of Organizational Behavior, 32*, 1106–1126. Doi: 10.1002/job.733

Clifford, S., Jewell, R. M., & Waggoner, P. D. (2015). Are samples drawn from Mechanical Turk valid for research on political ideology? *Research & Politics, 2*. Advanced online publication. Doi: 10.1177/2053168015622072

Cole, D. A., & Maxwell, S. E. (2003). Testing mediational models with longitudinal data: questions and tips in the use of structural equation modeling. *Journal of Abnormal Psychology, 112*, 558-577. Doi: 10.1037/0021-843X.112.4.558

Cowie, H., Naylor, P., Rivers, I., Smith, P. K., & Pereira, B. (2002). Measuring workplace bullying. *Aggression and Violent Behavior, 7*, 33-51. Doi: 10.1016/s1359-1789(00)00034-3

Coyne, I., Smith-Lee Chong, P., Seigne, E., & Randall, P. (2003). Self and peer nominations of bullying: An analysis of incident rates, individual differences, and perceptions of the working environment. *European Journal of Work and Organizational Psychology, 12*, 209-228. Doi: 10.1080/13594320344000101

Coyne, I., Farley, S., Axtell, C., Sprigg, C., Best, L., & Kwok, O. (2017). Understanding the relationship between experiencing workplace cyberbullying, employee mental strain and job satisfaction: a dysempowerment approach. *The International Journal of Human Resource Management, 28*, 945-972. Doi: 10.1080/09585192.2015.1116454

Cullen, K. L., Fan, J., & Liu, C. (2014). Employee popularity mediates the relationship between political skill and workplace interpersonal mistreatment. *Journal of Management, 40*, 1760-1778. Doi: 10.1177/0149206311435104

Dane, E., & Brummel, B. J. (2014). Examining workplace mindfulness and its relations to job performance and turnover intention. *Human Relations, 67*, 105-128. Doi: 10.1177/0018726713487753

Deci, E. L., Olafsen, A. H., & Ryan, R. M. (2017). Self-determination theory in work organizations: The state of a science. *Annual Review of Organizational Psychology and Organizational Behavior, 4*, 19–43. Doi: 10.1146/annurev-orgpsych-032516-113108

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological inquiry, 11*, 227–268. Doi: 10.1207/s15327965pli1104_01

Delahaij, R., Gaillard, A. W., & van Dam, K. (2010). Hardiness and the response to stressful situations: Investigating mediating processes. *Personality and Individual Differences, 49*, 386-390. Doi: 10.1016/j.paid.2010.04.002

Djurkovic, N., McCormack, D., & Casimir, G. (2008). Workplace bullying and intention to leave: the moderating effect of perceived organisational support. *Human Resource Management Journal, 18*, 405-422. Doi: 10.1111/j.1748-8583.2008.00081.x

Dollard, M. F., Dormann, C., Tuckey, M. R., & Escartín, J. (2017). Psychosocial safety climate (PSC) and enacted PSC for workplace bullying and psychological health problem reduction. *European Journal of Work and Organizational Psychology, 26*, 844-857. Doi: 10.1080/1359432X.2017.1380626

Dulac, T., Coyle-Shapiro, J. A., Henderson, D. J., & Wayne, S. J. (2008). Not all responses to breach are the same: The interconnection of social exchange and psychological contract processes in organizations. *Academy of Management Journal, 51*, 1079-1098. Doi: 10.5465/amj.2008.35732596

Dysvik, A., Kuvaas, B., & Gagné, M. (2013). An investigation of the unique, synergistic and balanced relationships between basic psychological needs and intrinsic motivation. *Journal of Applied Social Psychology, 43*, 1050-1064. Doi: 10.1111/jasp.12068

Eid, M., Gollwitzer, M., & Schmitt, M. (2017). *Statistik und Forschungsmethoden* (5th ed). Weinheim, Basel: Beltz Juventa.

Einarsen, S., Hoel, H., Zapf, D. & Cooper, C. L. (2011). The concept of bullying and harassment at work: The European tradition. In S. Einarsen, H. Hoel, D. Zapf, & C. L. Cooper (Eds.), *Bullying and harassment in the workplace. Developments in theory, research, and practice* (2nd ed., pp. 3–39). Boca Raton, FL: CRC Press.

Einarsen, S., Skogstad, A., Rørvik, E., Lande, Å. B., & Nielsen, M. B. (2016). Climate for conflict management, exposure to workplace bullying and work engagement: a moderated mediation analysis. *The International Journal of Human Resource Management*. Advanced online publication. Doi: 10.1080/09585192.2016.1164216

Eschleman, K. J., Bowling, N. A., & Alarcon, G. M. (2010). A meta-analytic examination of hardiness. *International Journal of Stress Management, 17*, 277-307. Doi: 10.1037/a0020476

Fang, J., Wen, C., & Prybutok, V. (2014). An assessment of equivalence between paper and social media surveys: The role of social desirability and satisficing. *Computers in Human Behavior, 30*, 335-343. Doi: 10.1016/j.chb.2013.09.019

Ferris, G. R., Treadway, D. C., Kolodinsky, R. W., Hochwarter, W. A., Kacmar, C. J., Douglas, C., & Frink, D. D. (2005). Development and validation of the political skill inventory. *Journal of Management, 31*, 126-152. Doi: 10.1177/0149206304271386

Ferris, G. R., Zinko, R., Brouer, R. L., Buckley, M. R., & Harvey, M. G. (2007). Strategic bullying as a supplementary, balanced perspective on destructive leadership. *Leadership Quarterly, 18*, 195–206. Doi: 10.1016/j.leaqua.2007.03.004

Fletcher, T. D., Major, D. A., & Davis, D. D. (2008). The interactive relationship of competitive climate and trait competitiveness with workplace attitudes, stress, and performance. *Journal of Organizational Behavior, 29*, 899-922. Doi: 10.1002/job.503

Floyd, T. M., Hoogland, C. E., & Smith, R. H. (2016). The role of leaders in managing envy and its consequences for competition in organizations. In C. Peus, S. Braun and B. Schyns (Eds.), *Leadership lessons from compelling contexts* (pp. 129-156). Bingley: Emerald Group Publishing Limited.

Forssell, R. (2016). Exploring cyberbullying and face-to-face bullying in working life–Prevalence, targets and expressions. *Computers in Human Behavior, 58*, 454-460. Doi: 10.1016/j.chb.2016.01.003

Fox, S., & Stallworth, L. E. (2009). Building a framework for two internal organizational approaches to resolving and preventing workplace bullying: Alternative dispute resolution and training. *Consulting Psychology Journal: Practice and Research, 61*, 220-241. Doi: 10.1037/a0016637

Fritz, M. S., & MacKinnon, D. P. (2007). Required sample size to detect the mediated effect. *Psychological Science, 18*, 233-239. Doi: 10.1111/j.1467-9280.2007.01882.x

Gardner, D., O'Driscoll, M., Cooper-Thomas, H. D., Roche, M., Bentley, T., Catley, B., ... & Trenberth, L. (2016). Predictors of workplace bullying and cyber-bullying in New Zealand. *International Journal of Environmental Research and Public Health, 13*, 448. Doi: 10.3390/ijerph13050448

Garland, E. L., Gaylord, S. A., & Fredrickson, B. L. (2011). Positive reappraisal mediates the stress-reductive effects of mindfulness: An upward spiral process. *Mindfulness, 2*, 59-67. Doi: 10.1007/s12671-011-0043-8

Gerstorf, D., Hoppmann, C. A., & Ram, N. (2014). The promise and challenges of integrating multiple time-scales in adult developmental inquiry. *Research in Human Development, 11*, 75–90. Doi: 10.1080/15427609.2014.906725

Greenbaum, R. L., Mawritz, M. B., & Eissa, G. (2012). Bottom-line mentality as an antecedent of social undermining and the moderating roles of core self-evaluations and conscientiousness. *Journal of Applied Psychology, 97*, 343-359. Doi: 10.1037/a0025217

Hansen, Å. M., Hogh, A., Persson, R., Karlson, B., Garde, A. H., & Ørbaek, P. (2006). Bullying at work, health outcomes, and physiological stress response. *Journal of Psychosomatic Research, 60*, 63-72. Doi: 10.1016/j.jpsychores.2005.06.078

Harris, K. J., Harvey, P., & Booth, S. L. (2010). Who abuses their coworkers? An examination of personality and situational variables. *The Journal of Social Psychology, 150*, 608-627. Doi: 10.1080/00224540903365489

Hauge, L. J., Skogstad, A., & Einarsen, S. (2011). Role stressors and exposure to workplace bullying: Causes or consequences of what and why? *European Journal of Work and Organizational Psychology, 20*, 610-630. Doi: 10.1080/1359432X.2010.482264

Hershcovis, M. S., & Barling, J. (2010). Towards a multi-foci approach to workplace aggression: A meta-analytic review of outcomes from different perpetrators. *Journal of Organizational Behavior, 31,* 24-44. Doi: 10.1002/job.621

Hershcovis, M. S., & Reich, T. C. (2013). Integrating workplace aggression research: Relational, contextual, and method considerations. *Journal of Organizational Behavior, 34*, 26-42. Doi: 10.1002/job.1886

Hertel, G., Nohe, C., Wessolowski, K., Meltz, O., Pape, J. C., Fink, J., & Hüffmeier, J. (2018). Effort gains in occupational teams. The effects of social competition and social indispensability. *Frontiers in Psychology, 9*, 769. Doi: 10.3389/fpsyg.2018.00769

Hoobler, J. M., & Brass, D. J. (2006). Abusive supervision and family undermining as displaced aggression. *Journal of Applied Psychology, 91*, 1125-1133. Doi: 10.1037/0021-9010.91.5.1125

Hox, J. J., De Leeuw, E. D., & Zijlmans, E. A. (2015). Measurement equivalence in mixed mode surveys. *Frontiers in Psychology, 6*. Advanced online publication. Doi: 10.3389/fpsyg.2015.00087

Huff C and Tingley D (2015) "Who are these people?" Evaluating the demographic characteristics and political preferences of MTurk survey respondents. *Research & Politics, 2*, 1–12. Doi: 10.1177/2053168015604648

Hultsch, D. F., MacDonald, S. W., Hunter, M. A., Maitland, S. B., & Dixon, R. A. (2002). Sampling and generalisability in developmental research: Comparison of random and convenience samples of older adults. *International Journal of Behavioral Development, 26*, 345-359. Doi: 10.1080/01650250143000247

Jäckle, A., Roberts, C., & Lynn, P. (2010). Assessing the effect of data collection mode on measurement. *International Statistical Review, 78*, 3-20. Doi: 10.1111/j.1751-5823.2010.00102.x

Jelinek, R., & Ahearne, M. (2010). Be careful what you look for: The effect of trait competitiveness and long hours on salesperson deviance and whether meaningfulness of work matters. *Journal of Marketing Theory and Practice, 18*, 303-321. Doi: 10.2753/MTP1069-6679180401

Kabat-Zinn, J. (2003). Mindfulness-based interventions in context: past, present, and future. *Clinical Psychology: Science and Practice, 10*, 144–156. Doi: 10.1093/clipsy/bpg016

Keashly, L. (2001). Interpersonal and systemic aspects of emotional abuse at work: The target's perspective. *Violence and Victims, 16*, 233-268.

Kelloway, E. K., & Barling, J. (2010). Leadership development as an intervention in occupational health psychology. *Work & Stress, 24*, 260–279. Doi: 10.1080/02678373.2010.518441

Kilduff, G. J., Galinksy, A. D., Gallo, E., & Reade, J. J. (2016). Whatever it takes to win: Rivalry increases unethical behavior. *Academy of Management Journal, 59*, 1508–1534. Doi: 10.5465/amj.2014.0545

Kish-Gephart, J. J., Harrison, D. A., & Treviño, L. K. (2010). Bad apples, bad cases, and bad barrels: meta-analytic evidence about sources of unethical decisions at work. *Journal of Applied Psychology, 95*, 1-31. Doi: 10.1037/a0017103

Kobasa, S. C. (1979). Stressful life events, personality, and health: An inquiry into hardiness. *Journal of Personality and Social Psychology, 37*, 1–11. Doi: 10.1037//0022-3514.37.1.1

Kowalski, R. M., Toth, A., & Morgan, M. (2018). Bullying and cyberbullying in adulthood and the workplace. *The Journal of Social Psychology, 158*, 64-81. Doi: 10.1080/00224545.2017.1302402

Laird, D. M., Zboja, J. J., & Ferris, G. R. (2012). Partial mediation of the political skill-reputation relationship. *Career Development International, 17*, 557-582. Doi: 10.1108/13620431211280132

LaMontagne, A. D., Keegel, T., Louie, A. M., Ostry, A., & Landsbergis, P. A. (2007). A systematic review of the job-stress intervention evaluation literature, 1990–2005. *International Journal of Occupational and Environmental Health, 13*, 268-280. Doi: 10.1179/oeh.2007.13.3.268

Landers, R. N., & Behrend, T. S. (2015). An inconvenient truth: Arbitrary distinctions between organizational, Mechanical Turk, and other convenience samples. *Industrial and Organizational Psychology, 8*, 142–164. Doi: 0.1017/iop.2015.13

Leiter, M. P., Laschinger, H. K. S., Day, A., & Oore, D. G. (2011). The impact of civility interventions on employee social behavior, distress, and attitudes. *Journal of Applied Psychology, 96*, 1258-1274. Doi: 10.1037/a0024442

Lerner, R. M., Schwartz, S. J., & Phelps, E. (2009). Problematics of time and timing in the longitudinal study of human development: Theoretical and methodological issues. *Human Development, 52*, 44-68. Doi: 10.1159/000189215

Little, T. D. (2013). *Longitudinal structural equation modeling*. New York, NY: Guilford Press.

Liu, Y., Ferris, G. R., Zinko, R., Perrewé, P. L., Weitz, B., & Xu, J. (2007). Dispositional antecedents and outcomes of political skill in organizations: A four-study investigation with convergence. *Journal of Vocational Behavior, 71*, 146-165. Doi: 10.1016/j.jvb.2007.04.003

Liu, W., Steve Chi, S. C., Friedman, R., & Tsai, M. H. (2009). Explaining incivility in the workplace: The effects of personality and culture. *Negotiation and Conflict Management Research, 2*, 164-184. Doi: 10.1111/j.1750-4716.2009.00035.x

Lopez, V., Sayers, J. M., & Cleary, M. (2017). Competitiveness in the workplace: Attributes and team benefits. Issues in Mental Health Nursing, 38, 523-525. Doi: 10.1080/01612840.2017.1322430

Luthans, F., Youssef-Morgan, C. M., & Avolio, B. J. (2015). *Psychological capital and beyond*. New York: Oxford University Press.

Malinowski, P., & Lim, H. J. (2015). Mindfulness at work: Positive affect, hope, and optimism mediate the relationship between dispositional mindfulness, work engagement, and well-being. *Mindfulness, 6*, 1250-1262. Doi: 10.1007/s12671-015-0388-5

Marcus-Newhall, A., Pedersen, W. C., Carlson, M., & Miller, N. (2000). Displaced aggression is alive and well: A meta-analytic review. *Journal of Personality and Social Psychology, 78*, 670-689. Doi: 10.1037//0022-3514.78.4.670

Marescaux, E., De Winne, S., & Sels, L. (2013). HR practices and HRM outcomes: The role of basic need satisfaction. *Personnel Review, 42*, 4-27. Doi: 10.1108/00483481311285200

Mason, W., & Suri, S. (2012). Conducting behavioral research on Amazon's Mechanical Turk. *Behavior research methods*, *44*, 1–23. Doi: 10.3758/s13428-011-0124-6

McClelland, D. C. (1965). Toward a theory of motive acquisition. *American Psychologist, 20*, 321-333. Doi: 10.1037/h0022225

Mikkelsen, E. G., Høgh, A., & Olesen, L. B. (2008). *Prevention of bullying and conflicts at work. An intervention study*. Paper presented at 6th International Conference on Workplace Bullying, June 4–6, 2008, Montreal, Canada.

Muhonen, T., Jönsson, S., & Bäckström, M. (2017). Consequences of cyberbullying behaviour in working life: The mediating roles of social support and social organisational climate. *International Journal of Workplace Health Management, 10*, 376-390. Doi: 10.1108/IJWHM-10-2016-0075

Nandkeolyar, A. K., Shaffer, J. A., Li, A., Ekkirala, S., & Bagger, J. (2014). Surviving an abusive supervisor: The joint roles of conscientiousness and coping strategies. *Journal of Applied Psychology, 99*, 138-150. Doi: 10.1037/a0034262

Neall, A. M., & Tuckey, M. R. (2014). A methodological review of research on the antecedents and consequences of workplace harassment. *Journal of Occupational and Organizational Psychology, 87*, 225-257. Doi: 10.1111/joop.12059

Nielsen, M. B., & Einarsen, S. (2008). Sampling in research on interpersonal aggression. *Aggressive Behavior, 34*, 265-272. Doi: 10.1002/ab.20229

Nielsen, M. B., & Einarsen, S. (2012). Outcomes of exposure to workplace bullying: A meta-analytic review. *Work & Stress, 26,* 309–332. doi: 10.1080/02678373.2012.734709

Nielsen, M. B., & Knardahl, S. (2015). Is workplace bullying related to the personality traits of victims? A two-year prospective study. Work & Stress, 29, 128-149. Doi: 10.1080/02678373.2015.1032383

Nielsen, M. B., Gjerstad, J., Jacobsen, D. P., & Einarsen, S. V. (2017). Does ability to defend moderate the association between exposure to bullying and symptoms of anxiety? *Frontiers in psychology, 8*, 1953. Advanced online publication. Doi: 10.3389/fpsyg.2017.01953

Nielsen, M. B., Matthiesen, S. B., & Einarsen, S. (2010). The impact of methodological moderators on prevalence rates of workplace bullying. A meta-analysis. *Journal of Occupational and Organizational Psychology, 83*, 955–979. Doi: 10.1348/096317909X481256

Nishina, A. (2012). Microcontextual characteristics of peer victimization experiences and adolescents' daily well-being. *Journal of Youth and Adolescence*, *41*, 191-201. Doi: 10.1007/s10964-011-9669-z

Nishina, A., & Bellmore, A. (2010). When might peer aggression, victimization, and conflict have its largest impact? Microcontextual considerations. *The Journal of Early Adolescence*, *30*, 5-26. Doi: 10.1177/0272431609350928

Oh, J. K., & Farh, C. I. (2017). An emotional process theory of how subordinates appraise, experience, and respond to abusive supervision over time. *Academy of Management Review*, *42*, 207-232. Doi: 10.5465/amr.2014.0347

Parzefall, M. R., & Salin, D. M. (2010). Perceptions of and reactions to workplace bullying: A social exchange perspective. *Human Relations*, *63*, 761–780. Doi: 10.1177/0018726709345043

Penhaligon, N. L., Louis, W. R., & Restubog, S. L. D. (2009). Emotional anguish at work: The mediating role of perceived rejection on workgroup mistreatment and affective outcomes. *Journal of Occupational Health Psychology, 14*, 34-45. Doi: 10.1037/a0013288

Peterson, R. A., & Merunka, D. R. (2014). Convenience samples of college students and research reproducibility. *Journal of Business Research, 67*, 1035-1041. Doi: 10.1016/j.jbusres.2013.08.010

Platow, M. J., & Shave, R. (1995). Social value orientations and the expression of achievement motivation. *The Journal of Social Psychology, 135*, 71-81. Doi: 10.1080/00224545.1995.9711404

Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual Review of Psychology, 63*, 539-569. Doi: 10.1146/annurev-psych-120710-100452

Raja, U., Johns, G., & Ntalianis, F. (2004). The impact of personality on psychological contracts. *Academy of Management Journal, 47*, 350-367. Doi: 10.2307/20159586

Rayner, C., & Lewis, D. (2011). Managing workplace bullying. The role of policies. In S. Einarsen, H. Hoel, D. Zapf, & C. L. Cooper (Eds.), *Bullying and harassment in the workplace. Developments in theory, research, and practice* (2nd ed., pp. 327–340). Boca Raton, FL: CRC Press.

Reh, S., Tröster, C., & Van Quaquebeke, N. (2017). Keeping (Future) Rivals Down: Temporal Social Comparison Predicts Coworker Social Undermining via Future Status Threat and Envy. *Journal of Applied Psychology*. Advanced online publication. Doi: 10.1037/apl0000281

Reknes, I., Einarsen, S., Knardahl, S., & Lau, B. (2014). The prospective relationship between role stressors and new cases of self-reported workplace bullying. *Scandinavian Journal of Psychology, 55*, 45-52. Doi: 10.1111/sjop.12092

Reknes, I., Harris, A., & Einarsen, S. (2018). The role of hardiness in the bullying–mental health relationship. *Occupational medicine, 68*, 64-66. Doi: 10.1093/occmed/kqx183

Roberts, S. J., Scherer, L. L., & Bowyer, C. J. (2011). Job stress and incivility: What role does psychological capital play? *Journal of Leadership & Organizational Studies, 18*, 449-458. Doi: 10.1177/1548051811409044

Saam, N. J. (2010). Interventions in workplace bullying: A multilevel approach. *European Journal of Work and Organizational Psychology, 19*, 51–75. Doi: 10.1080/13594320802651403

Sakurai, K., & Jex, S. M. (2012). Coworker incivility and incivility targets' work effort and counterproductive work behaviors: The moderating role of supervisor social support. *Journal of Occupational Health Psychology, 17*, 150-161. Doi: 10.1037/a0027350

Salin, D. (2003a). Bullying and organisational politics in competitive and rapidly changing work environments. *International Journal of Management and Decision Making, 4*, 35–46. Doi: 10.1504/ijmdm.2003.002487

Salin, D., & Notelaers, G. (2017). The effect of exposure to bullying on turnover intentions: the role of perceived psychological contract violation and benevolent behaviour. *Work & Stress, 31*, 355-374. Doi: 10.1080/02678373.2017.1330780

Samnani, A. K., Singh, P., & Ezzedeen, S. (2013). Workplace bullying and employee performance: An attributional model. *Organizational Psychology Review, 3*, 337-359. Doi: 10.1177/2041386613475370

Schaubroeck, J. M., Hannah, S. T., Avolio, B. J., Kozlowski, S. W., Lord, R. G., Treviño, L. K., ... & Peng, A. C. (2012). Embedding ethical leadership within and across organization levels. *Academy of Management Journal, 55*, 1053-1078. Doi: 10.5465/amj.2011.0064

Schmidt, S. (2009). Shall we really do it again? The powerful concept of replication is neglected in the social sciences. *Review of General Psychology, 13*, 90–100. Doi: 10.1037/a0015108

Schultz, P. P., Ryan, R. M., Niemiec, C. P., Legate, N., & Williams, G. C. (2015). Mindfulness, work climate, and psychological need satisfaction in employee well-being. *Mindfulness, 6*, 971-985. Doi: 10.1007/s12671-014-0338-7

Schüler, J., Sheldon, K. M., Prentice, M., & Halusic, M. (2016). Do some people need autonomy more than others? Implicit dispositions toward autonomy moderate the effects of felt autonomy on well-being. *Journal of Personality, 84*, 5-20. Doi: 10.1111/jopy.12133

Sheehan, M., McCabe, T. J., & Garavan, T. N. (2018). Workplace bullying and employee outcomes: a moderated mediated model. *The International Journal of Human Resource Management*. Advanced online publication. Doi: 10.1080/09585192.2017.1406390

Skogstad, A., Einarsen, S., Torsheim, T., Aasland, M. S., & Hetland, H. (2007). The destructiveness of laissez-faire leadership behavior. *Journal of Occupational Health Psychology, 12*, 80–92. Doi: 10.1037/1076-8998.12.1.80

Sloan, M. M. (2012). Unfair treatment in the workplace and worker well-being: The role of coworker support in a service work environment. *Work and Occupations, 39*, 3-34. Doi: 10.1177/0730888411406555

Smith, G. T., McCarthy, D. M., & Anderson, K. G. (2000). On the sins of short-form development. *Psychological Assessment, 12*, 102–111. Doi:10.1037/1040-3590.12.1.102

Spence, J. T., & Helmreich, R. L. (1983). Achievement-related motives and behaviors. In J. T. Spence (Ed.), *Achievement and achievement motives: Psychological and sociological approaches* (pp. 7–74). San Francisco: W.H. Freeman and Company.

Tarraf, R. C., Hershcovis, M. S., & Bowling, N. A. (2017). Moving the field of workplace aggression forward: Thoughts and recommendations. In N. A. Bowling & M. S. Hershcovis (Eds). *Research and Theory on Workplace Aggression*, (pp. 350-369). Cambridge: University Press.

Tarris, T. W. (2000). *A Primer in Longitudinal Data Analysis*. London. Sage.

Tjosvold, D., Johnson, D. W., Johnson, R. T., & Sun, H. (2003). Can interpersonal competition be constructive within organizations? *Journal of Psychology, 137*, 63–84. Doi: 10.1080/00223980309600600

Treadway, D. C., Shaughnessy, B. A., Breland, J. W., Yang, J., & Reeves, M. (2013). Political skill and the job performance of bullies. *Journal of Managerial Psychology, 28*, 273-289. Doi: 10.1108/02683941311321169

Trépanier, S. G., Fernet, C., & Austin, S. (2013). Workplace bullying and psychological health at work: The mediating role of satisfaction of needs for autonomy, competence and relatedness. *Work & Stress, 27*, 123-140. Doi: 10.1080/02678373.2013.782158

Trépanier, S. G., Fernet, C., & Austin, S. (2015). A longitudinal investigation of workplace bullying, basic need satisfaction, and employee functioning. *Journal of occupational health psychology*, *20*, 105–116. Doi: 10.1037/a0037726

Trépanier, S. G., Fernet, C., & Austin, S. (2016). Longitudinal relationships between workplace bullying, basic psychological needs, and employee functioning: a simultaneous investigation of psychological need satisfaction and frustration. *European Journal of Work and Organizational Psychology*, *25*, 690–706. Doi: 10.1080/1359432X.2015.1132200

Van Assche, J., van der Kaap-Deeder, J., Audenaert, E., De Schryver, M., & Vansteenkiste, M. (2018). Are the Benefits of Autonomy Satisfaction and the Costs of Autonomy Frustration Dependent on Individuals' Autonomy Strength? *Journal of Personality*. Advanced online publication. Doi: 10.1111/jopy.12372

Van den Broeck, A., Ferris, D. L., Chang, C. H., & Rosen, C. C. (2016). A review of self-determination theory's basic psychological needs at work. *Journal of Management*, *42*, 1195–1229. Doi: 10.1177/0149206316632058

Van Schalkwyk, L. M., Els, C., & Rothmann, I. (2011). The moderating role of perceived organisational support in the relationship between workplace bullying and turnover intention across sectors in South Africa. *SA Journal of Human Resource Management, 9*, 1-13. Doi: 10.4102/sajhrm.v9i1.384

Vartia, M., & Leka, S. (2011). Interventions for the prevention and management of bullying at work. In S. Einarsen, H. Hoel, D. Zapf, & C. L. Cooper (Eds.), *Bullying and harassment in the workplace. Developments in theory, research, and practice* (2nd ed., pp. 359–379). Boca Raton, FL: CRC Press.

Vecchio, R. (2005). Explorations in employee envy: Feeling envious and feeling envied. *Cognition and Emotion, 19*, 69–81. Doi: 10.1080/02699930441000148

Vranjes, I., Baillien, E., Vandebosch, H., Erreygers, S., & De Witte, H. (2017). The dark side of working online: Towards a definition and an Emotion Reaction model of workplace cyberbullying. *Computers in Human Behavior, 69*, 324-334. Doi: 10.1016/j.chb.2016.12.055

Vranjes, I., Baillien, E., Vandebosch, H., Erreygers, S., & De Witte, H. (2018). Kicking someone in cyberspace when they are down: Testing the role of stressor evoked emotions on exposure to workplace cyberbullying. *Work & Stress*. Advanced online publication. Doi: 10.1080/02678373.2018.1437233

Walsh, B. M. (2018). Best practices in coaching for aggressors and offenders in workplace bullying and mobbing. In M. Duffy and D. C. Yamada (Eds.), *Workplace Bullying and Mobbing in the United States* (pp. 335-356). Santa Barbara, CA: Praeger/ABC-CLIO.

Warszewska-Makuch, M., Bedyńska, S., & Żołnierczyk-Zreda, D. (2015). Authentic leadership, social support and their role in workplace bullying and its mental health consequences. *International Journal of Occupational Safety and Ergonomics, 21*, 128-140. Doi: 10.1080/10803548.2015.1028230

Woodrow, C., & Guest, D. E. (2014). When good HR gets bad results: Exploring the challenge of HR implementation in the case of workplace bullying. *Human Resource Management Journal*, *24*, 38-56. Doi: 10.1111/1748-8583.12021

Yang, L. Q., Caughlin, D. E., Gazica, M. W., Truxillo, D. M., & Spector, P. E. (2014). Workplace mistreatment climate and potential employee and organizational outcomes: A meta-analytic review from the target's perspective. *Journal of Occupational Health Psychology, 19*, 315-335. Doi: 10.1037/a0036905

Zapf, D. & Einarsen, S. (2011). Individual antecedents of bullying: Victims and perpetrators. In S. Einarsen, H. Hoel, D. Zapf, & C. L. Cooper (Eds.), *Bullying and harassment in the workplace. Developments in theory, research, and practice* (2nd ed., pp. 177–200). Boca Raton, FL: CRC Press.

Zhou, Z. E., Yang, L. Q., & Spector, P. E. (2015). Political skill: A proactive inhibitor of workplace aggression exposure and an active buffer of the aggression-strain relationship. Jo*urnal of Occupational Health Psychology, 20*, 405-419. Doi: 10.1037/a0039004