**Research Report**

**Method**

**Participants**

Four hundred and fourteen participants were initially recruited for this study. Participants who partially completed the questionnaires were excluded from the final analysis, resulting in a total sample of 313 participants (64.5% females) with an average age of 25.44 (*SD* = 9.53, *range* = 17-79). Their educational level was no diploma (1.6%), primary education (1.3%), junior secondary education (6.1%), upper secondary education (56.2%), vocational training (6.4%), Bachelor’s degree (13.7%), Master’s degree (9.3%), Doctoral degree (2.2%), and other types of educational programs (3.2%).

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Eligibility criteria included employment, permanent or temporary residence in Luxembourg as we were interested in the perspective of people with different migration experiences. Our participants were mainly native citizens of Luxembourg, first and second generation voluntary immigrants or temporary residents from different ethnic backgrounds (see Table 1 for a detailed description of our sample). With respect to the number of nationalities mentioned, 85.9% of the participants listed one nationality while 13.4% listed two or more nationalities (2 missing cases). In addition, 84% of them reported having the Luxembourgish citizenship, which was obtained either through birth (77.2%) or through naturalization (22.8%). Most of our participants were born in Luxembourg (79.9%), 8.3% were born in a different country but grew up in Luxembourg, 3.8% stayed in Luxembourg during their studies, 3.5% moved when they were adults, and the rest of them (4.5%) moved under different circumstances. Approximately half of their parents were born in Luxembourg (52.7% of their mothers and 53.4% of their fathers).

**Instruments**

*Multigroup Ethnic Identity Measure (MEIM)*

The Multigroup Ethnic Identity Measure (MEIM) was selected for the assessment of identification with Luxembourg. This scale was developed to assess ethnic identity development in adolescents and adults of diverse cultural backgrounds and focuses on aspects such as belongingness to one’s ethnic group, ethnic identity achievement, and behaviors associated with ethnic group membership (Phinney, 1992). It consists of 12 items (e.g. “I have a strong sense of belonging to my own ethnic group). Answers are recorded on a 5-point Likert scale (1 = completely disagree; 5 = completely agree). A slightly modified version of the MEIM scale was used, which had been previously adapted to the Luxembourg context (Cronbach’s *α* = .895).

*Cosmopolitan Identity Scale*

The concept of cosmopolitan identity refers to a form of supranational identification that goes beyond national identities (Delanty, 2005). Research findings have revealed that intercultural contact can contribute to the development of such a shared identity in areas with highly diverse populations (van de Vijver, Blommaert, Gkoumasi & Stogianni, 2015). Given the superdiverse nature of our sample, the concept of cosmopolitan identity was considered of high importance.

In line with previous studies, a Cosmopolitan Identity scale was introduced, including items such as “How much do you identify yourself as citizen of the world?” and “How much do you identify yourself as European?” (Saroglou & Hanique, 2006; van de Vijver et al., 2015). Some new items were added, assessing beliefs about multiple citizenship (e.g. It is possible to feel a sense of belonging to several nationalities at the same time”), transnational identification (e.g. “I identify more strongly with humankind in general than with members of my own ethnic group”), and the level of contact with people from various ethnic groups (e.g. “I could be friends with people from many different nationalities”). The final version of the questionnaire included 7 items and recorded responses on a 5-point Likert scale (1 = veryslightly/not at all; 5 = totally). The scale revealed acceptable levels of internal consistency (Cronbach’s *α* = .685) with item total correlations ranging from *r* = .281 to *r* = .505 and an average inter-item correlation of *r* = .259.

*Satisfaction with life Scale*

The Satisfaction with Life Scale (SWLS) was introduced as a measure of participants’ subjective well-being. This scale was developed in order to measure cognitive evaluations about satisfaction with one’s life (Diener, Emmons, Larsen, & Griffin, 1985) and consists of 5 items (e.g. “In most ways my life is close to my ideal”). Responses were recorded on a 7-point Likert scale (1 = completely disagree; 7 = completely agree). Two additional items were included in the scale (i.e. “I am optimistic about my future”, “I experience positive feelings most of the time”, Cronbach’s *α* = .903).

*Personal Need for Structure Scale*

In order to measure individual differences in the desire for structure and clarity, we used a shortened version of the Personal Need for Structure Scale (Thompson, Naccarato, Parker, & Moskowitz, 2001). The scale consisted of 7 items (instead of the original 12 items) and recorded participants’ responses on a 6-point Likert scale (1 = completely disagree; 6 = completely agree, Cronbach’s *α* = .751). Sample items included statements such as “It upsets me to go into a situation without knowing what I can expect from it”.

*Self-Efficay Scale*

In order to investigate perceptions of self-efficacy, participants filled in the General Self-Efficacy Scale (Schwarzer & Jerusalem, 1995), which consists of 10 items (e.g. “It is easy for me to stick to my aims and accomplish my goals”). Responses were recorded on a 4-point Likert scale (1 = Not at all true; 4 = Exactly true, Cronbach’s *α* = .829).

*Typical Luxembourgish Scales*

 Another questionnaire was created in order to assess attitudes towards Luxembourgish citizens. This measure was specifically targeted to the Luxembourg context. In the first part of this questionnaire, participants were presented with some descriptive adjectives of different valence (positive, negative, neutral). Their task was to indicate to what extent these adjectives (e.g. “arrogant”, “hard-working”) could describe typical Luxembourgish people in their point of view. Their responses were recorded on a 5-point Likert scale (1= not at all; 5= totally). Later, they were asked to evaluate these items again, in terms of how other foreign nationals would perceive Luxembourgish people in their opinion.

We also included a number of statements that described key characteristics of Luxembourgish people. Some of these referred to characteristics that could be passed down through lineage (e.g. parents born in Luxembourg, nationality inherited through parents), while the rest of them included characteristics that could be acquired through naturalization and active participation in the society of Luxembourg (e.g. competence in the national languages of Luxembourg, political participation, education, work and residence in the country). Participants indicated to what extent each of these statements was typical in describing Luxembourgish people. Their answers were recorded on a 5-point Likert scale (1= important; 5= not important).

 The last measure took the form of short vignettes. These vignettes systematically varied the country of birth of a person and his/her parents, his/her nationality, and his/her current country of residence. Based on this information, participants were asked to provide ratings in terms of whether these individuals could be seen as typical Luxembourgish citizens or not (e.g. “Born in Luxembourg, parents Portuguese. Lives in Luxembourg”, “Born in Luxembourg, mother Italian, father Luxembourgish. Lives in Luxembourg.”). Responses were recorded on a 5-point Likert scale (1= not at all Luxembourgish; 5= Most Luxembourgish). (see Appendix)

Moreover, participants were asked to list their language(s) of preference as well as the language(s) that they use to speak with their family. Some additional questions covered the following topics: 1) How many of your friends come from different countries? (answered on a 5-point Likert scale ranging from 1 = none of my friends to 5 = most of my friends), 2) To what extend do you speak Luxembourgish (1 = not at all; 5 = fluently), 3) What is the nationality of your partner? 4) Could you describe a number of aspects that you really find important in life? (van de Vijver et al., 2015). These questions would allow us to gain a better understanding of what factors influence identification processes in such a superdiverse society and the ways in which daily interactions are affected by intercultural contact.

**Procedure**

All testing materials were available in two of the official languages of Luxembourg, French and German. All participants seemed to be competent in one of these two languages. The majority selected the German version of the questionnaire (78%). The questionnaires were translated from English to German and French by native speakers and were checked by bilinguals, fluent in these two languages.

The survey was distributed online via SoSci Survey software. Participants were recruited through online social networks and through snowballing sampling. They were invited to participate in an anonymous online survey about different cultural groups living in Luxembourg. The recruitment information included an electronic consent form and a web address where the survey could be accessed. The procedure lasted about 20 minutes. Participation in the study was voluntary. By completing the entire survey, participants were given the opportunity to be entered into a lottery in which some of them would be randomly selected to win a gift voucher to the value of 50€ or 20€. Those who were willing to enter the lottery provided their e-mail addresses after being redirected to a different site, so that their contact information could not be linked to their responses.

**Results**

*Data Analysis*

Prior to the analysis, descriptive statistics were calculated for all the identity and personality scales. Some of the scales were slightly skewed but as transformations did not yield the expected results, analyses were performed on the original data. The findings suggest that both the Luxembourgish and the cosmopolitan identity were pronounced across different ethnic groups. Average item scores were above 3, the midpoint of the scales. More precisely, the average item score was higher for the cosmopolitan identity 4.09 (*SD* = .59) while for the Luxembourgish identity was 3.24 (*SD* = .82). Participants also reported high levels of subjective well-being (*M* = 4.86, *SD* = 1.13), self-efficacy (*M* = 2.99, *SD* = .41), and personal need for structure (*M* = 3.68, *SD* = .86) with average scores above the midpoints of these scales.

Bivariate correlations revealed significant relationships between the identity measures and the scales assessing personality traits and subjective well-being (see Table 2). Subjective well-being and perceptions of self-efficacy were positively related to cosmopolitan and national identity. However, there was a negative relationship between personal need for structure and cosmopolitan identity.

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*Multigroup Ethnic Identity Measure*

An hierarchical regression analysis was conducted to examine whether individual trait variables and psychological indicators could predict differences in national identification. Luxembourgish identity scores, as measured with the MEIM scale, were regressed on subjective well-being and self-efficacy. In the first step, demographic variables, such as age and economic status, were statistically controlled for. In the second step, subjective well-being scores and self-efficacy scores were entered in the model. The overall model was significant at the first step *F*(2,302) = 3.076, *p* = .048 and the second step *F*(4,300) = 5.069, *p* = .001, explaining 6.3% of the variance (step 2). The socioeconomic status predicted ethnic identification *β* = .141, *p* = .015 but this effect was no longer significant when individual difference variables were entered into the equation. At the second step, self-efficacy was the strongest predictor in the model *β* = .155, *p* = .01.

A principal component analysis was performed on the 12 items of the Multigroup Ethnic Identity Measure with the aim to identify and compute mean scores for the factors underlying this version of the scale. Using Kaiser’s criterion, two factors were extracted, explaining 60.17% of the variance. To aid in the interpretation of these two components, an Oblimin rotation was performed. The rotation solution revealed a two factor structure. Both factors had strong loadings and most variables loaded substantially on only one component (see Table 3). Items more related to the process of identity exploration (e.g. “I have spent time trying to find more about Luxembourg, such as its history, traditions and customs”) loaded strongly on factor 1 whereas items more related to identity commitment (e. g. I am happy that I am a member of the Luxembourgish community”) loaded strongly on factor 2, in line with previous research findings (Roberts, Phinney, Masse, Chen, Roberts, & Romero, 1999).

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Encouraged by these findings and as suggested by Roberts et al. (1999), two subscales were created: the Luxembourgish Identity Commitment subscale (Cronbach’s *α* = .909) and the Luxembourgish Identity Exploration subscale (Cronbach’s *α* = .734). The mean score for the Luxembourgish Identity Commitment subscale was above the midpoint of the scale (*M* = 3.52, *SD* = .93). The Luxembourgish Identity Exploration subscale had a lower mean score (*M* = 2.85, *SD* = .89), suggesting that most of our participants were no longer in the process of ethnic identity exploration.

*Cosmopolitan Identity Scale*

Multiple hierarchical regression analyses were conducted in order to identify potential predictors of transnational identification. The first model indicated that personality traits such as the need for structure and self-efficacy affect cosmopolitan identification. The overall model was significant at the first *F*(5,300) = 7.369, *p* < .001 and the second step *F*(5,300) = 10.398, *p* < .001, explaining 14.8% of the variance (step 2). Age was a significant predictor at the first step *β = -.250, t*(305) *=* -4.447*, p < .001.* After controlling for demographic variables*,* personal need for structure was the strongest predictor in the model *β = -.*181*, t*(305)= -3.371, *p =* .001, followed by self-efficacy *β =* .204*, t*(305)= 3.716, *p* < .001.

Another regression model assessed whether the language of preference and the number of friends from other countries could predict cosmopolitan identity. Participants were classified in three groups depending on their level of contact with friends from other countries: few or no friends from other countries (38.7%), half of their friends (29.7%), a lot of friends (31.6%). Dummy coded variables were used to represent different friend groups and the third group was selected as the reference group. The languages of preference were dummy coded as well (one language of preference = 0, more than one language of preference =1). The results of the regression analysis indicated that two predictors explained 11.9% of the variance at the second step (*F*(6,305) = 8.03, *p* <.001). Having fewer friends from other countries *β =* -.221*, t*(311)= -3.533, *p <* .001 predicted lower scores in the cosmopolitan identity scale while speaking more than one language predicted higher scores *β =* .349*, , t*(311)= 3.000,  *p =*.003.

*Group differences*

Following Valentova and Berzosa’s (2010) approach, participants were classified in different groups based on their migration status. It was expected that different migration experiences would have an impact on identity formation processes. Participants who were natural-born citizens of Luxembourg (both themselves and their parents were born in the country) were classified as “native” (*n* = 132). The second group included first generation immigrants (*n* = 57), all those who were born in a different country and then moved to Luxembourg. A further group consisted of second-generation immigrants (*n* = 53), participants who were born in Luxembourg but mentioned that their parents were born in a different country. There was also a fourth group, which was labelled “mixed”. This group (*n* = 49) included participants who were born in Luxembourg and had one Luxembourgish parent who was also born in Luxembourg. A small number of participants that did not fall into any of these categories formed a separate group (*n* = 22), which was excluded from the analyses.

Several ANOVAS were conducted in order to investigate differences between the four groups concerning the identity measures. A one-way between-groups analysis of variance was performed with the cosmopolitan identity as the dependent variable and the previously mentioned four groups as the between subjects factor. The assumption for homogeneity of variance was not met for these data (*p* < .05). Thus, the obtained Welch’sadjusted *F* ratio is reported. There was a statistically significant difference in cosmopolitan identity scores for these four groups *Welch’s F*(3, 131.404) = 11.432, *p* < .001, *2* = .09 Games-Howell post-hoc tests were conducted to determine which pairs of these four immigrant groups differed significantly. It was found that second-generation immigrants (*M =* 4.39, *SD* = .37) scored higher than natives (*M* = 3.96, *SD* = .64) in the cosmopolitan identity scale. They also had a significantly higher mean score than immigrants in the mixed group (*M* = 4.08, *SD* = .52) (see graph…).

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Significant group differences were also found in Luxembourgish identity commitment scores, *Welch F*(3, 121.175) = 5.139, *p* = .002 although the effect size was quite small, *2* = .04. Post-hoc comparisons, using the Games-Howell procedure, indicated that the natives had a significantly higher average score (*M* = 3.57, *SD* = .92) comparing to the first-generation immigrants (*M* = 3.08, *SD* = 1.02) but there were no significant differences between natives, second-generation immigrants and participants in the “mixed” group (see graph …).

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Typical Luxembourgish Scale

 Initially, survey responses were analyzed at the item level. A mean score was computed for each of the items that assessed perceptions about typical characteristics of Luxembourgish people. The item referring to linguistic competence in the Luxembourgish language had the highest mean score (*M* = 4.28, *SD* = .96), followed by items referring to Luxembourgish citizenship and permanent residence in the country (*M* = 3.69, *SD* = 1.17) and linguistic competence in all the national languages of the country (Luxembourgish, French and German) (*M* = 3.67, *SD* = 1.09).

Then, an exploratory factor analysis was performed to examine the inter-relationships among different items with a view to select subsets of characteristics that could form particular scales. The data were in general adequate for factor analysis (KMO =.778). A great number of correlation coefficients with a higher value than .3 among variables in the correlation matrix provided great support for the selection of this statistical method.

The analysis revealed that data could be summarized in four components with eigenvalues 4.33, 1.89, 1.45, and 1.15 respectively. The four factor solution explained 58.77% of the variance in total. To aid in the interpretation of these findings, oblique and varimax rotations were applied and the oblimin rotation provided the best defined structure (see Table 3). Items including characteristics that can be granted through lineage loaded on factor 1. These items refer to the notion of unconditional “ius sanguinis” or ethnic citizenship (Spencer & Wollman, 2002), according to which nationality can be only inherited through bloodline and is restricted to members of the same ethnic group. Conversely, items that loaded on the second factor described characteristics that can be acquired through naturalization in the country of birth and residence (e.g. education, linguistic competence) and were more related to the principle of “ius soli”- civic citizenship (Spencer & Wollman, 2002). In line with this principle, nationality can be granted through place of birth to all those who were born and raised in a particular country (Weil, 2001).

Items related to permanent residence in Luxembourg, political engagement, participation in the social life of Luxembourg, and relationships with the locals loaded onto factor 3. This factor was labelled “Engagement” as it included items reflecting active participation in the society of Luxembourg. The last component was labelled “Distance” and included items about residence in a foreign country (e.g. “Born in Luxembourg but leaves abroad”). All the items saturated > 0.50 or more on the correspondent factor and < .030 on the other factor.

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Four subscales were created based on these broader categories of typical Luxembourgish characteristics that emerged after the factor analysis (see Table …)

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In a second step, several between groups analyses of variance were conducted with these subscales as the dependent variables and the previously mentioned four groups as the between subjects factor. According to the results, the four groups differed significantly in the way they rated the importance of engagement related characteristics *Welch F*(3, 118.53) = 6.13, *p* = .001, *2* = .05. Games-Howell post-hoc tests revealed that first generation immigrants rated these characteristics as more important (*M* = 2.80, *SD* = .78) than citizens from the native population (*M* = 2.31, *SD* = .77), second generation immigrants (*M* = 2.30, *SD* = 1.06), and participants in the mixed group (*M* = 2.26, *SD* = .76) (see graph…)

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***Reaction times***. Reaction times were recorded during the completion of each questionnaire as we were also interested in assessing behavioral responses to culturally relevant stimuli. Prior to the analysis, a logarithm of each reaction time response was computed to reduce the skewness and the kurtosis of these data. However, such transformations did not always yielded positive outcomes, suggesting that parametric analyses for this sample are not that robust. Afterwards, an overall reaction time score was computed for each questionnaire. Several oneway ANOVAS were conducted to examine reaction time differences between the four groups on the dependent measures. The results revealed a statistically significant difference in total reaction times during the Typical Luxembourgish task *F*(3, 287) = 2.975, *p* = .032, *2* = .03. Post-hoc tests demonstrated that first generation immigrants spent significantly more time on the Typical Luxembourgish scales (*M* = 2.42, *SD* = .33) than native Luxembourgsih citizens (*M* = 2.31, *SD* = .22).

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*Vignettes*

Responses to the 10 vignettes were also analyzed at the item level but the sample was splitted by migratory background as suggested by Valentova and Berzosa (2010). Examining perceptions regarding Luxembourgish citizenship within each group separately, we can conclude that native Luxembourgish participants strongly support the notion that nationality can be granted through blood lineage. They see as Luxembourgish citizens only those who were born and raised in Luxembourg by Luxembourgish parents (*M* = 4.85, *SD* = .47) and offsprings of mixed couples with one Luxembourgish parent who live in Luxembourg (*M* = 4.16, *SD* = .86). These items had the highest mean scores within this group. First generation immigrants demonstrated similar attitude patterns but also perceived second generation immigrants as more Luxembourgish (*M* = 3.95, *SD* = .88) than individuals belonging to other immigrant groups. However, second generation immigrants seem to have a different conceptualization of Luxembourgish citizenship. They also consider the country of birth as an important aspect of citizenship. The vignettes describing individuals who were second generation immigrants and individuals who were born in Luxembourgers but lived abroad had high mean scores within this group, *M* = 4.06 (*SD* = .82) and *M* = 4.04 (*SD* = .94) respectively. Lastly, participants in the “mixed” group rated as most Luxembourgish those that acquired their citizenship through their place of birth, irrespective of their current country of residence (natives: *M* = 4.78, *SD* = .59, offsprings of mixed couples: *M* = 4.43, *SD* = .61, native Luxembourgers living abroad *M* = 4.06, *SD* = .94 and second generation immigrants *M* = 3.84, *SD* = .90).

*Languages*

 When asked about their languages of preference, most participants listed one language of preference (91.4%) and the rest listed two or more languages of preference (8.6%). Specifically, 122 of them mentioned a language of preference same as their country of origin. Participants also reported the languages that they use to speak with their family. The most common languages spoken were Luxembourgish (52.4%), Portuguese (8.6%), German (8%), and Luxembourgish together with other languages (17.5%) such as French, German, Italian, and Portuguese. Participants were divided into three groups according to the languages they used to speak in their family. The first group included individuals that used to speak only Luxembourgish and was labelled “Mono-Lux” (*n* =166). The second group, named “Plurilingual”, consisted of those that used to speak more than one language (*n* = 65), including Luxembourgish. The last group “Mono Not Lux” included all those that used to speak other foreign languages (*n* = 82). As it was expected, offsprings of mixed familes were more plurilingual while first and second generation immigrants were less likely to speak only Luxembourgish (see table). Second generation immigrants demonstrated preference in speaking the national languages but also the language of their country of origin, particularly those representing dominant immigrant groups in Luxembourg (e.g. Portuguese).

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*Analysis of Qualitative data*