"We Need a Big Revolution in Email Advertising": Users' Perception of Persuasion in Permission-based Advertising Emails

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ABSTRACT

Persuasive tactics intend to encourage users to open advertising emails. However, these tactics can overwhelm users, which makes them frustrated and leads to lower open rates. This paper intends to understand which persuasive tactics are used and how they are perceived by users. We first developed a categorization of inbox-level persuasive tactics in permission-based advertising emails. We then asked participants to interact with an email inbox prototype, combined with interviews (N=32), to investigate their opinions towards advertising emails and underlying persuasive tactics. Our qualitative findings reveal poor user experience with advertising emails, which was related to feeling surveilled by companies, forced subscription, high prior knowledge about persuasive tactics, and a desire for more agency. We also found that using certain persuasive tactics on the inbox level is perceived as ethically inappropriate. Based on these insights, we provide design recommendations to improve advertising communication and make such emails more valuable to users.

CCS CONCEPTS

• **Human-centered computing** → **Empirical studies in HCI**; **HCI theory, concepts and models**; *Web-based interaction.*

KEYWORDS

Email Advertising, Persuasion, Subject Line, Attitude, Reactance Theory

1 INTRODUCTION

In modern email communication, institutional (business to user) messages are playing an increasing role [27], especially in advertisement campaigns. Advertising emails account for 42 [54] to 90 percent [29] of all non-spam emails in the average user's mailbox. At the same time, up to 85 percent of emails are not opened [24] and more than 90 percent of deleted emails are never read before deletion [40]. Consequently, marketers might feel encouraged to increase open rates by applying persuasive tactics, as indicated by the proliferation of such tactics in recent years.

Our study investigates users' perceptions of these persuasive tactics in permission-based advertising emails. We examine how these common practices affect users' desire to interact with advertising emails. Our goal was also to determine if any of these common practices are perceived by users as manipulative and therefore unacceptable.

Since any interaction with an email depends on the initial decision to open it, delete it, or mark it as spam [68], it is at this stage of decision-making that attention-attracting and persuasive mechanisms play the most significant role [95]. Specifically, the sender's information, subject line, and the very beginning of an email play a vital role in this decision, as they are directly visible without opening the email. They can include persuasive elements to increase the chances of being opened. Therefore, we concentrate on such inbox-level persuasive tactics to better understand how they determine users' attitudes towards permission-based advertising email content and email advertising practice in general.

First, we conducted a pre-study dedicated to creating and testing a categorization of persuasive tactics used on the inbox level. Second, in our main study, we concentrated on analyzing users' attitudes toward permission-based advertising emails and their perception of persuasion in this context. We used the categorization of inbox-level persuasive tactics to fill the experimental email inbox and asked for user feedback about their effectiveness and appropriateness.

This paper makes three main contributions to advancing knowledge about users' attitudes towards email advertising:

(1) We contribute an empirically derived **categorization of persuasive tactics** used at the inbox level of advertising emails that can be useful for developing design recommendations and shaping future research;

(2) We contribute to the field's knowledge about users' attitudes towards email advertising and particularly persuasive tactics;
(3) We contribute a set of **actionable recommendations** to make email advertising more appropriate to users.

Based on our results, we discuss an agenda of future research efforts, which includes developing an automated recognition system to help users report and eliminate inappropriate persuasive attempts and raise users' awareness of persuasive techniques.

2 CURRENT STATE OF RESEARCH

2.1 Attitude towards permission-based advertising emails

Permission-based advertising emails require at least a one-time agreement from the recipient to receive commercial proposals from senders [31], such as checking a box during registration or when purchasing goods from an online retailer. It is important to distinguish between these advertising emails and spam. The term "spam" covers a large area of unwanted emails, from unsolicited commercial emails to fraud attempts, and is prohibited by regulators in many countries. Studies suggest that users perceive permission-based advertising emails more favorably than unsolicited emails [18]. These emails can even be a source of customer empowerment [48]. At the same time, user attitudes towards permission-based advertising emails (at least in recent years) have become rather negative and are similar to attitudes towards spam [27, 65]. These negative attitudes towards both unsolicited and permission-based advertising emails could be related to the perceived intrusiveness and the amount of these emails, which has become one of the main sources of overload [23, 43] and places considerable demands on customers' attention [19, 75] However, despite these negative attitudes, users still subscribe to and interact with permission-based advertising emails [29, 54].

2.2 Persuasion and advertising emails

Persuasion is an attempt to purposefully change someone's behavior. This change should be voluntary and not include deception [38]. As a process, persuasion should always include a persuadee, persuader, and persuasive message [46]. From the most influential models of persuasion, the elaboration likelihood model [76] and the persuasive knowledge models [39], focus on the persuadee perspective. The elaboration likelihood model proposes that persuasion can use one of two elaboration routes: central or peripheral. The central route involves an active, detailed evaluation of the persuasive message content, while the peripheral route uses a fast, heuristics-based approach. According to this model, advertisers should design their messages differently for the two ways of elaboration [76]. The persuasive knowledge model suggests that a person builds their persuasive knowledge based on prior experience, which includes an understanding of persuasion attempts and the development of tactics to cope with these attempts [39]. In contrast, Cialdini's six persuasive principles are dedicated to the persuasive characteristics of the message and can be applied in multiple contexts. A fourth approach was developed in Human-Computer Interaction (HCI), where Fogg [38] applied his nine persuasive principles not to the message but to designing a system for creating persuasive technologies. Oinas-Kukkonen and Harjumaa [71] enlarged the list of persuasive principles and connected them to system requirements. Another list of persuasive tactics proposed by Ferreira et al. [36] was tailored specifically to phishing email subject lines and combined the Cialdini principles with social engineering principles. Their classification could be useful for analyzing advertising emails because, despite the differences between phishing and advertising emails, both practices aim to push users to open the email.

2.3 Reactance theory

One of the ways to explain the negative outcomes of persuasive practices in advertising emails is presented by reactance theory. The (psychological) term "reactance" describes the unpleasant motivational state when an individual perceives their freedom to be at risk. This state includes cognitive and emotional processes, which lead to behavior intended to restore freedom (which can be understood as an individual's autonomy) [13]. As advertising can be defined as an attempt to persuade customers to make decisions, customers often demonstrate reactance to advertisers' persuasive attempts [7, 15, 99]. Amarnath et al. conducted a systematic review on consumer reaction, with many studies showing that persuasive attempts can be perceived as a threat to freedom and create a state of reactance [7]. Reactance can be expressed in cognitive (when the person provides cognitive arguments to counteract persuasion), affective (expressing negative feelings towards the advertising), and behavioral (refusing to take actions proposed by the advertiser) ways [15]. An additional effect of reactance is that the actions to restore freedom can lead to overreaction and refusal to communicate with advertisers. For example, customers can adopt direct forms of reactance (like avoiding the ads or using ad blockers) or indirect forms of restoration strategies, like downgrading their image of the advertised brand/goods or advertising channel/practice in general [15, 51].

2.4 Personalized advertisements and privacy concerns

By personalizing advertising content, advertisers try to customize content to their clients based on additional information about the client's location, interests, and behavior, often gathered without their consent [77]. While personalizing can create a better customer experience and make advertising proposals more relevant to the client's needs [2], users might interpret the use of external information as a threat to their privacy and consequently react negatively to such advertising attempts [59, 67, 85, 92]. Studies have shown that a higher level of personalizing in advertising emails is interpreted negatively when customers perceive the value of the proposal as low [97] or even perceived negatively in general [100], but neither of these studies investigated the effect of the solicited/unsolicited nature of the email on users' perception of personalized email advertising.

2.5 Competing demands for attention

When users interact with an email, they usually complete at least two steps. They evaluate the email's extended subject line (i.e., sender, subject, and first lines of the email), and if they decide to

open the email, they then examine the content in a second step. [68]. As 85 percent of emails are usually deleted without being opened [29], we can expect that advertisers strive to draw attention to their emails on the inbox level to encourage users to open them. Studies have shown that in the case of inbox-level interaction with emails, the user's attention is driven by utility and curiosity cues, which help them guess the email's content. In the situation of email overload, however, the role of curiosity as an attention-driver is lowered [95]. In the case of advertising emails, users need to manage their attention while facing a growing number of received emails, which involves differentiating between similar attention-concurrent stimuli. This difficult task could create a negative attitude towards advertisers [68] and lead to lower open rates [75].

In the context of competing demands for users' attention, we can expect advertisers to develop persuasive tactics aiming to make the email's subject line more attractive (both persuasive and visually salient) to potential users. A search query on Google for the keywords "how to" AND "advertising emails" AND "subject line" yielded more than 1000 results dedicated to tips and tricks to create subject lines that are "working" or "persuasive". Some of these pieces of advice provide general rules, such as to "be short", "have fun," or "experimenting"; others suggest more formal criteria (length or wording) [1, 66, 87], and many of them are based on variations of persuasive strategies and principles known from existing literature about general persuasion, mentioned above.

2.6 Effects of inbox-level elements in advertising emails

Although several studies claim that the subject line plays a key role in the decision to open advertising emails [3, 9, 74, 87], there have been only a small number of attempts to connect the effects of features of an email's subject line to users' actual interaction with an email. The findings include positive effects of personalizing [78] and advertisement-in-disguise [68] on the email's open rate. Another study summarizes the subject lines of most opened emails as having up to 6 words, no exclamation marks, and proposed sales incentives [88]. Also, the open rate is affected by having a trusted (familiar) email sender; familiarity with the sender also leads to more favorable opinions about the content [20].

2.7 Summary and paper structure

In this paper, we distinguish between permission-based advertising emails and unsolicited advertising emails, which are often considered spam. Whenever we speak of advertising emails in this paper, we mean permission-based advertising. Dealing with a full email inbox creates competing demands for a user's attention. Advertisers attempt to attract users' attention to their advertising emails through persuasive design. The extended subject lines play a central role for advertisers, as they are critical for users' deciding whether or not to open an email. Thus, it is likely that persuasive techniques are particularly prevalent in extended subject lines.

To the best of our knowledge, no previous academic paper has addressed the problem of user perceptions of inbox-level persuasive tactics used in advertising emails. Thus, we aim to understand how people perceive the persuasive techniques used to entice them to

open and interact with advertising emails. There is a lack of qualitative research on this topic; our study thus brings a novel angle to the topic of user perceptions of permission-based advertising emails. We first conducted a pre-study to define a categorization of persuasive tactics (section 3). We use then this categorization in the main study (section 4), in which we conducted 32 interviews and prototype interaction sessions to analyze users' attitudes towards advertising emails. Finally, we discuss challenges and implications (section 7), limitations (section 8), and conclude (section 9).

3 PRE-STUDY: DEFINITION AND QUALITY CHECK OF CATEGORIZATION

Despite the well-established tradition of categorizing persuasive attempts in general [21] and specifically in information systems [38, 71], to the best of our knowledge, no previous academic paper has addressed how the persuasive tactics used in advertising emails at the inbox level (manipulations of the sender, subject line and preview line of the email) could be specified and categorized. However, in order to systematically study users' perceptions of persuasion in advertising emails, we require a working categorization of persuasive tactics. Such a categorization is imperative to understand which tactics are perceived as more or less acceptable and to help users recognize these tactics. These are our objectives in the main study. In this pre-study, we develop and test a categorization of persuasive techniques used at the inbox level of advertising emails.

3.1 Research Question

We formulated the following research question (RQ): **How can the inbox-level persuasive tactics used in modern advertising emails be categorized?**

3.2 Methodology

In order to create a categorization of inbox-level persuasive tactics in advertising emails, we performed three steps: corpus creation, creating a categorization of persuasive tactics, and testing its quality.

3.2.1 Corpus collection and exploration. We created a new email account with a fictional name on a popular email service for the study. We used this account to subscribe to 100 websites (retail, hospitality, online education, etc.) based on the lists of largest online businesses provided by Statista [83]. We also subscribed to a selection of mailing lists from Brignull's collection of businesses, which are using deceptive designs [47]. We assumed that, as these business entities have already been mentioned in the context of unethical persuasion, their email advertising might also use questionable persuasive techniques. We collected emails from October 2021 to May 2022. We excluded subscription confirmation emails and "terms and conditions" emails, as we do not expect them to have persuasion as their main goal. We also discarded non-English messages, which we probably received due to regional settings mistakes. This process left us with a corpus of 7050 emails.

3.2.2 Category development. We developed a categorization of persuasive tactics in advertising emails in three steps. First, we created a draft of the categorization based on previous work as follows. We took Cialdini's principles [21] as a starting point for two reasons.

First, Cialdini's principles are currently the most widely used in online advertising [11, 33, 53, 80] among both academics and practitioners. As advertisers are familiar with Cialdini's principles, they might apply his principles to shape persuasive tactics in advertising emails. Second, Cialdini's persuasive principles are widely used to study phishing emails (e.g., [16, 72, 94]) and have been proven to be effective instruments for analyzing persuasive email communication. We integrated Cialdini's approach with Ferreira's view of persuasive principles in phishing subject lines, which suggests that both advertising emails and phishing emails seek to make users open the emails before interacting with them [35]. Thus, we added several principles from social engineering which are discussed in the context of phishing emails and could also be applicable for advertising emails, such as "Strong Affect" [41] and "Distraction" [82]. We regularly performed web searches for email advertisement strategies in industry blogs and added the frequently suggested "Curiosity" tactic [95], for which we later also found evidence in the anti-phishing literature [62]. Second, we went through the corpus of collected advertising emails and iteratively enhanced our categorization draft. The first author scanned through the corpus (by randomly selecting a sub-sample of extended subject lines from the full collection of 7050 emails), and the preliminary categorization was discussed and refined among the group of authors. We then applied the categorization to the extended subject lines from a new set of random emails to test the category ideas until a preliminary consensus was reached. Third, we organized a group discussion (N = 8) with HCI researchers (post-doctoral researchers, PhD students, user research specialists with 7+ years of experience in the industry, and MSc-level trainees) specializing in persuasive design/deceptive design practices to receive their feedback about the proposed categories. This discussion led us to add the principle of "Social Proof" [21] as a dedicated category.

3.2.3 Testing the quality of the categorization of persuasive tactics. To test the quality of our categorization, we double-coded a set of emails' extended subject lines and calculated inter-rater reliability. We organized a group session with experts in HCI (N=4). First, we presented our categorization with 18 typical examples. The participants reported a high level of understanding of the categorization and its relevance to the examined extended subject lines. We selected a random set of 100 emails from the corpus for the testing procedure. We deleted four identical extended subject lines. Because our previous dataset exploration had shown that the "Deception" category is underrepresented in the dataset, we manually added four typical examples of this underrepresented category. To make our procedure less dependent on the individual rater, we split the set of 100 extended subject lines into two subsets of 50 items and divided our experts into two groups. Each pair of raters received and coded 50 items independently.

3.3 Results

Based on our iterative development of a categorization of persuasive tactics, we found the following tactics:

Call to Action. This tactic aims to apply Cialdini's principle of "Authority" to advertising emails by telling users what to do. Grammatically, the use of the imperative verb form is closely connected to the authority of the person who uses it (their right to command)

[45]. Typical examples include phrases like "Grab the deal", "Don't wait", or "Save more". In a number of advertisers' recommendations, practitioners recommend starting with action-oriented verbs to instruct or even command the user to take the desired action [5, 44, 90]. The goal of this tactic is presumably to make the action of opening the email fast and avoid having the user reflect on it.

Shortening the Social Distance. This tactic is based on Cialdini's "Liking and Similarity" and Gragg's "Deceptive Relations" principle. Its main goal is to pretend that customer-seller relations are like friendships, where commercial proposals are processed as advice from someone who cares about you. We observed several approaches to make communication seem personal and less formal: extensive use of the receiver's first name in the subject line [55], using an informal speech style [28] and greetings like "Hi" or "Howdy", and putting a person's name in the sender field (e.g. Hugh from "Company A" instead of just "Company A").

Reciprocity. This tactic is based on Cialdini's and Gragg's principle of "Reciprocity/Reciprocation" implying that the advertiser has done a (real or fake) favor for the recipient. Thus, opening the advertising email is presented as a minimal favor the recipient owes the marketer in return [30, 60]. Typical examples of this inbox-level tactic are "We collected the best options for you", or suggesting that an offer was specifically chosen for the user, such as "You are invited!"

Scarcity/Urgency. This tactic is based on Cialdini's principle of "Scarcity", as a scarce product might seem more precious (because of limited time available or a limited proposal). The urgent nature of the proposal presumably raises the likelihood of opening the email (users need to open it impulsively before the deal expires) [34]. A typical example is mentioning that a proposal will end very soon ("Best deals end tonight!").

Strong Affect. This tactic is similar to the "Strong Affect" principle proposed by Gragg [41]. It attempts to overwhelm users with (negative or positive) emotions [41], which makes them more susceptible to opening the mail. The use of negative emotional triggers is rather rare in advertising emails and is mostly connected with abandoned cart or subscription canceled scenarios, but the use of exaggerated positive emotions is considered good practice [12]. Typical examples include using words such as "excited" and "love", exclamation words like "Hooray", and punctuation marks like "!!!!"

Curiosity. Curiosity is mentioned both in the general context of opening email incentives [95] and in practical recommendations for creating persuasive subject lines [22]. The main idea is to create an information gap, which makes the user curious about the email content. A typical example is to put a question in the email subject line and imply that an answer will be given in the main body of the email (e.g., "Good or Bad? Who are you?").

Social Proof. This tactic is closely related to the "Social Proof" principle by Cialdini [21] and the "Herd" principle by Stajano and Wilson [82]. Its aim is to show the value of a proposal for a particular group, preferably the recipient's reference group. We identified several attempts to use this tactic, where advertisers proposed to their clients "Our clients' favourite product" or even "Everyone loves this shampoo" to create social proof.

Deception. This tactic builds on elements designed to deceive the user into thinking that the email is not advertising, for example by making it look like part of an ongoing communication exchange

by using "Re" and "Fwd" labels in the subject line or pretending to include some important information about ongoing orders or shipping procedures. In general, practitioners' papers mention this tactic as "inappropriate" [81]; nevertheless, use of this tactic could be in line with data that hiding the advertising nature of email make open rates higher [68].

Visual Distraction. This tactic operates similarly to the "Overloading" and "Distraction" principles of phishing emails [41, 82] by making the email subject line more visually appealing. Typical examples include excessive use of capital letters, colors, emojis or combinations of these elements. The goal of this tactic is probably to initiate peripheral route elaboration in clicking decisions and make the message visually stand out in the user's overfilled email inbox. Although previous studies have shown that including emojis in subject lines could increase negative sentiments without raising the open rate [79], some practical recommendations suggest using emojis [17]. The condensed list of developed tactics with examples is presented in Appendix A.

Table 1 contains the results of the double coding to test the quality of this categorization of persuasive tactics. Because each extended subject line can contain more than one persuasive tactic, the results of the item categorizations made by each rater were transformed into nine binary scales, where 1 means that this category was chosen and 0 means that this category was not chosen for that item. Next, we combined the two subsets of 50 items into a full set and calculated the inter-rater agreement for each category separately using Cohen's Kappa with IBM SPSS 28 [52], which is widely used to measure categorization reliability [96]. The results showed that all nine categories reached a minimum acceptable Kappa of 0.5 [4]. Three of the proposed categories of tactics reached a moderate level of agreement, four substantial, and two an almost perfect level of agreement.

3.4 Discussion of the Pre-Study

The results of the first study showed that inbox-level persuasion can be categorized into various tactics. The categories are sufficiently clear, as evidenced by acceptable to perfect inter-rater agreement. The weakest results were obtained for the scales "Call to Action," "Reciprocity," and "Strong Affect".

The "Call to Action" tactic was picked too frequently compared with other categories, which suggests that insights from users be collected for a possible reorganization of this category. Our data also shows that "Social Proof" and "Deception" were the least selected tactics, indicating that despite the high level of inter-rater agreement, the results should be supported by more real-world evidence of users' encounters with these categories to determine the real quantity and forms of this tactic in advertising emails.

The limitations of the study are connected with our corpus. Despite a large number of collected emails, not all companies sent an equal volume of emails. Also, some companies probably limit the number of emails they send to inactive customers, so the dataset variety progressively declined over the duration of our study. Another limitation of the study is that the dataset only covers emails from the initial stage of the client's interaction with the site (e.g.,

registration). Based on tips from practitioners' blogs [89], we hypothesize that tactics for active customers (i.e., customers having interacted with the site beyond the registration phase) could differ.

We apply these categories in the Main Study to understand how these persuasive tactics are perceived by users. As Kappa reached the minimally acceptable threshold of 0.5 [4] for all categories, we decided not to exclude any category of persuasive tactics, but instead discuss our full categorization and definitions with users in the main study. We decided to use this data as empirical evidence for potential changes to our categorization of persuasive tactics from a user-centered perspective.

4 MAIN STUDY: USER ATTITUDES AND REACTIONS TO PERSUASIVE TACTICS

In our main study, we aimed to investigate persuasive tactics with users in simulated yet realistic interactions with permission-based emails. We wanted to know what attitudes users have toward advertising emails and how these attitudes interplay with persuasive tactics. We also investigated how the tactics are perceived by users in the experimental interaction with emails and in regard to their everyday use of email.

4.1 Research Questions

Our main study had three research questions:

- RQ1: Which general factors affect users' attitudes towards advertising emails and what are the typical actions users take when reacting to advertising emails?
- RQ2: What do users think about the persuasive tactics in advertising emails' subject lines, and how does the use of different persuasive tactics affect users' attitudes and reactions to the advertising emails?
- RQ3: What do users think of the proposed categorization of persuasive tactics in terms of its quality (i.e., the distinctiveness and completeness of the proposed categories)?

4.2 Methodology

We performed a lab-based study with 32 participants (15 female, 17 male) recruited from a university mailing list, including 21 students (6 Bachelor, 15 Master) and 11 staff members. The age range included participants from 21 to 41 years old (mean age: 29.1 years). Their self-rated familiarity with email advertising ranged from 1 to 10 (on a 10-point scale, mean rating 6.9). Four participants had prior experience in marketing. Participants' demographic information and self-declared familiarity with advertising emails can be found in Appendix D.

4.2.1 Research ethics. The study design was organized according to the ethical guidelines of the authors' institution. We instructed the participants carefully about the study's goals and data collection at the beginning of each session. Participants provided informed consent prior to participation and received a 30-euro gift card as compensation. Participant data was pseudonymized for data analysis. The study procedure was approved by the Ethical Review Panel of the authors' institution.

Table 1: Results of inter-rater agreement procedure

Tactic	Kappa's value	Agreement interpretation	Asymptotic CI		% of agreement	Absolute N of choosing category (all raters)
			Lower	Higher		
Call to Action	.50	Moderate	.33	.67	75	95
Shortening the Social Distance	.69	Substantial	.53	.84	87	59
Reciprocity	.58	Moderate	.38	.78	87	37
Scarcity/Urgency	.79	Substantial	.63	.94	93	41
Strong Affect	.50	Moderate	.29	.71	84	40
Curiosity	.62	Substantial	.46	.78	83	76
Social Proof	.81	Almost perfect	.60	1.02	97	17
Deception	.71	Substantial	.40	1.02	97	11
Visual Distraction	.84	Almost Perfect	.73	.94	92	82

4.2.2 Procedure. Regarding RQ1, we started with a semi-structured interview on participants' experience with and perception of advertising emails. The study protocol (available in Section B in the Appendix) contained general questions about users' attitudes towards advertising emails, their emotions, and how they typically interact with them. We discussed in which cases users perform certain actions (such as "delete," "mark as spam," and "unsubscribe"), and which inbox-level signals help them make these decisions. Furthermore, we used a critical incident approach [37] to collect significant examples of positive and negative experiences with email advertising.

Regarding RQ2, we introduced an interactive prototype (see the following section) and asked participants to go through a selection of advertising emails representing all identified persuasive tactics. We asked them to explain their actions with respect to the emails using the think-aloud protocol. Think-aloud is frequently used in HCI to investigate users' underlying reasons for their behavior [49]. We opted for think-aloud to gain insights into participants' spontaneous reactions to persuasive tactics in a realistic context. In the case of silence, we prompted participants to continue thinking aloud. In addition, after the interaction with the prototype, we discussed users' experience and decisions regarding the emails in an interview. We asked participants to reflect on their experience to ensure that we did not miss any rationales users provided during the interaction. Furthermore, to better understand users' attitudes to each persuasive tactic, we presented our categorization of persuasive tactics to the users after their interaction with the emails and asked their opinion about each category.

To investigate RQ3, we asked for users' feedback about the quality of our categorization and how it could be improved. In particular, we investigated whether they found the categories to be sufficiently distinct and whether they would add additional categories based on their experience.

4.2.3 Interactive prototype. Our goal was to investigate users' experience with email inboxes in an ecologically valid way, while also protecting their privacy, i.e., not using their real email inboxes. As several email providers currently use pre-classification of emails and create separate email folders for advertisements, we simulated such a filtered folder to provide a realistic experience to our participants. This also allowed us to investigate differences in users'

reactions to the persuasive tactics. We created an interactive Figma email inbox prototype (see Fig. 1) using a community-provided template created by Chris Hartley[1]. We added interactive buttons for possible actions ("delete message", "mark as spam", "report message", or "other actions" to suggest some other actions) and implemented the functionality to open the email by clicking on it. The interactive prototype presented a selection of emails from different industries taken from the inbox we created for the Pre-Study. However, we changed the names of the companies to avoid familiarity effects. Our initial goal was to present two examples representing each persuasive tactic; however, as the "Reciprocity" and "Strong Affect" tactics yielded the lowest levels of agreement in the Pre-Study, we created two additional emails representing these categories. We also added one email with no identified tactics in the subject line. Applying these additional rules, we ended up with an email box of twenty-one emails. At the same time, because tactics are usually combined, most of our emails' extended subject lines used more than one tactic (for example, thirteen emails used "Visual Distraction" as one of their tactics). A full description of persuasive tactics used in each email's subject lines is presented in Appendix C. To avoid potential ordering effects, we created four versions of our prototype with the emails in randomized order. Participants were consecutively assigned to each prototype on a rotating basis. Regarding the tactic "Shortening the Social distance, we manually changed the first name in the email to the participant's first name before each experiment (except for one where an error occurred).

4.2.4 Analysis. We applied an inductive-deductive qualitative data analysis approach to both the interviews and think-aloud data [63]. The objective of our analysis was to find the factors that affected attitudes toward advertising emails and perceptions of persuasive tactics on the inbox level. We initially created codes inductively by summarizing the topics brought up by the interviewees. This was done in an open coding session between the first and the second author. We systematically coded five of the interviews and discussed our codes and the relations among them. We iteratively improved this initial code system when new codes were found to be necessary. Once the initial code system had been defined, we used an additional deductive approach to link the codes to the theories

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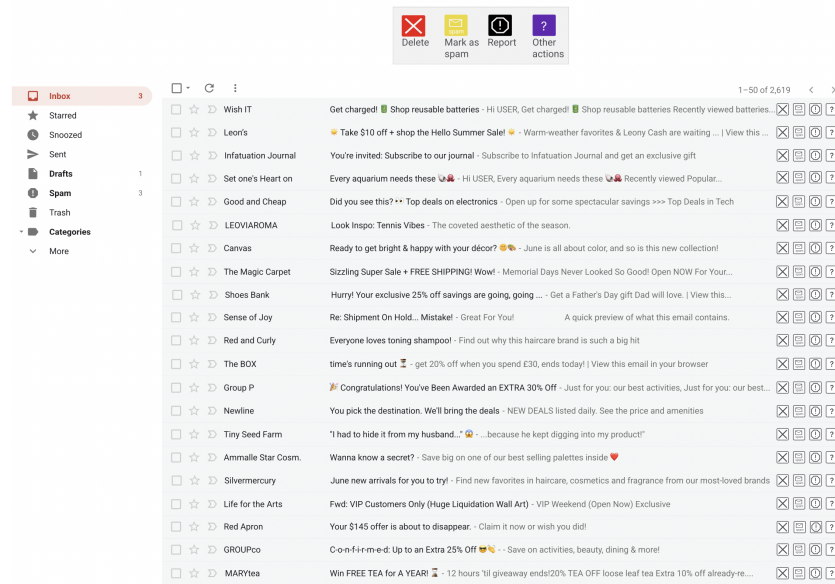[1]available at https://www.figma.com/community/file/992128751519676799

Figure 1: Interactive email inbox prototype. During the experimental procedure, we replaced the word "USER" with the participant's name, and all the sender company names were invented for the purpose of the study.

of interest: reactance theory and the persuasive knowledge model. After that, the first author coded the full corpus of pre-and post-interaction interviews, and the second author coded interactions with the experimental email inboxes.

- Regarding RQ 1, we grouped our codes into categories identifying the factors affecting users' attitudes toward advertising emails. Specifically, we investigated how users define advertising emails (and how they differ from spam) and their previous positive and negative experiences with them (based on the critical incident technique). We grouped codes into a coordinate plane with negative/positive attitudes and escaping/engaging strategies towards them to determine trends in users' actions and perceptions of advertising emails. As codes for negative attitudes, we used the construct of emotional discomfort, perceived uselessness of advertising emails, expressed desire to not receive such emails, etc. As positive attitudes, we used instances of usefulness, interest, or positive emotions connected to the advertising proposal. As engaging strategies, we used the aforementioned actions that can be taken with respect to emails, such as opening, deleting, unsubscribing, or reading them. On the "escaping" pole, we collected instances of "not opening the advertising folder", "having a separate email address for promos and never checking it," "not opening emails," or "ignoring them" (the codebook for the coordinate plane is presented in the Supplementary Materials). Each participant's final position was mathematically calculated from the difference between the negative and positive scores and engaging and escaping scores, respectively.

- Regarding RQ 2, we created codes for users' reactions to emails (open, delete, mark as spam, report) and the rationales as evident from the think-aloud commentary. Besides our

provided actions, we identified two additional actions suggested by participants in the "other action" category, namely keeping the emails and forwarding them to friends. To code the users' interactions, we calculated the sum totals for each action per email and per persuasive tactic. We also calculated the summary score for each action regarding each tactic. As some tactics were presented in the experimental set more often than others, we divided this score by the number of times each tactic was presented in the dataset. To determine which emails and which tactics were perceived by users as similar in terms of users' actions, we conducted two Hierarchical Cluster Analyses [50] (one on the level of individual emails, and one on the level of persuasive tactics, average linkage method [98], as implemented in SPSS 28 [52]). We present results from users' think-aloud commentaries alongside the Hierarchical Cluster Analyses. We also grouped participants' feedback for each of the persuasive tactics in general and along dimensions of appropriateness and effectiveness.

- Finally, regarding RQ 3, we investigated whether participants suggested further tactics and whether they would reorganize our categorization (e.g., because certain tactics might overlap). The codebook for the study is presented in the Supplementary Materials.

5 RESULTS AND DISCUSSION

5.1 RQ 1: Factors affecting users' attitudes and actions towards advertising emails

5.1.1 Attitude towards advertising emails. All participants had a clear definition of advertising emails (e.g., P1: "companies sending out emails or coupons to promote products") based on prior experiences. However, most of our participants voiced doubts about the

effectiveness of advertising emails. For some, the problem of effectiveness was connected with certain badly conducted advertising campaigns, while for others, it was related to the channel itself. For example, two participants mentioned that advertising emails are "a bit dated" (P7) and other strategies are needed:

> **P3**: I think we need a big revolution because advertising becomes too boring, too much, too annoying and then the company advertising department should think about a different strategy.

On a conceptual level, most participants also made a clear distinction between advertising emails and spam as the former are permission-based. Another difference connected to the unsolicited character of spam is the possibility of fraudulent or malicious content in spam emails. In contrast, our participants did not see that type of danger from advertising emails. However, despite these perceived differences, the participants still often used the word "spam" to express their negative attitude towards certain advertising emails. Our participants mainly argued that the high quantity and lack of personal relevance make these emails appear "spammy". Together, these two features represent participants' main "red flags" regarding permission-based email advertising. When the advertising company is perceived as oriented toward quantity and does not consider the qualitative, relevance-like component, users start to apply the frames they use for unsolicited emails. This can lead to taking actions like reporting advertising emails as spam, which is not considered until the above-mentioned "red flags" are raised.

> **P23**: The difference (between advertising emails and spam) would be basically how often they receive an email from the same company. If I'm receiving about this from the same department, the same product, the same every day or even several times a day, then I feel harassed.

As is shown in Fig. 2, most of our participants tend to have a negative view of advertising emails and take actions such as deleting or unsubscribing. We found limited examples of escaping strategies (e.g., relying on automatic filtering), probably because some advertising emails nevertheless still come into users' main folder/inbox and they need to interact with them in any case. A number of participants mentioned that they originally interacted more with advertising emails, but at one point the amount, persuasiveness, or intrusiveness of these emails made them revise their strategy and take more actions to avoid advertising emails, which can be seen as evidence of a high reactance level [13].

Investigating the rationales for users' interactions with advertising emails, our study supports findings that a high quantity and lack of personal relevance are connected with negative emotions towards advertising emails [27, 65]. However, we also identified four additional factors contributing to the negative view of advertising emails.

5.2 Factors affecting the perception of advertising emails

5.2.1 *Forced subscription.* The permission-based subscription model intends to protect users from aggressive marketing interactions.

However, today's model of subscription is, in many cases, far from a free choice:

> **P11**: I probably had to sign up for an account and then I feel like […] you have to then accept these terms and in those terms is, you know, this email subscription, but you can't not accept the email subscription.

Even when subscribing is not directly necessary to use a service, design choices often favor subscribing, such as putting two checkboxes (one for confirming the terms of service, one for subscribing) very close to each other. Due to the forced nature of this communication, users feel trapped in a grey zone: they acknowledge that they probably confirmed their subscription to advertising from the company, but also perceive a manipulative component of this practice. In line with reactance theory, this partly-voluntary partly-forced subscription is interpreted as an attack on their freedom of choice. This makes users angry toward the advertising provider and creates unpleasant feelings and a motivation to restore their freedom by taking actions such as deleting emails without opening them, creating separate folders or email inboxes for advertising emails, or unsubscribing. All of these possible actions have the same reactance-guided goal: to avoid the proposed advertising interactions. This reactance-based approach can also explain why many descriptions of advertising emails by the interviewees include mentions of negative emotions and words like "force" or "push" to point out the forced character of the practice:

> **P19**: And every time if there is any promotion, any discount they send it directly to you that try to force you to buy indirectly and this is I try to avoid that kind of thing.

5.2.2 *Limited control over advertising communication.* Users also interpret the lack of relevance and quantity problems as frustrating features because they feel that they have limited control over the type and quantity of promotions. Several participants said they would like to subscribe to a limited amount of information about certain proposals but not the full email list (which corresponds with the findings of [27]). Even if the user was originally interested in and voluntarily subscribed to the list, this type of advertiser behavior leads to unsubscribing. Unsubscribing seems to the users to be an appropriate and compelling way to regain control and get rid of subscriptions they found legitimate but unsatisfactory.

> **P8**: So if I push the spam button I feel like […] I'm reporting them in a bad way for the spam filters. So I like to […] unsubscribe so that the company is given the chance to improve.

Participants often mentioned that they would consider actions like reporting an email as "spam" only if unsubscribing fails. Still, we did not find evidence that users saw the failure of the unsubscribing attempt as evidence of malicious intentions by the company. For some users, however, the perceived surveillance (see below) was so strong that they would shy away from unsubscribing to avoid giving companies the information that a particular email address is actively used.

> **P9**: I guess it takes some time because this is like a feature that the companies have to implement all of a sudden, and then there are still some bugs to fix.
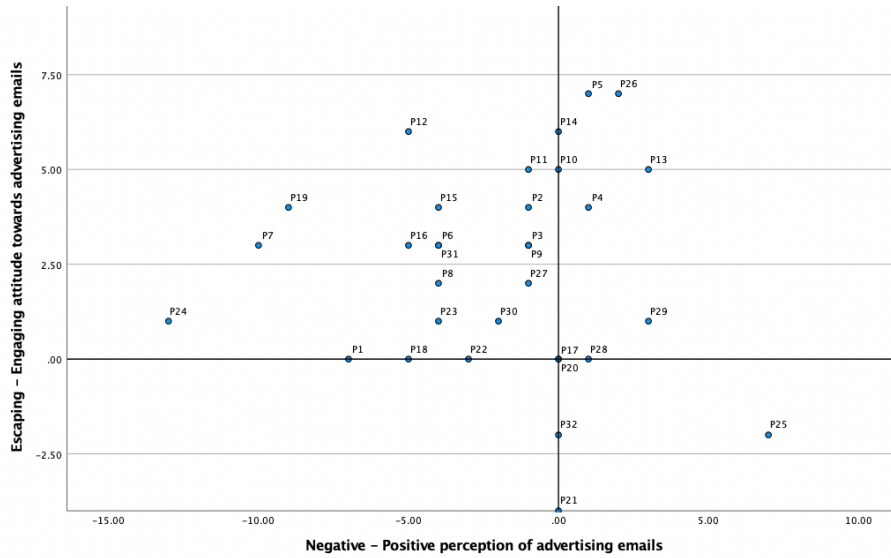
Figure 2: Participants' position on the coordinate plane

This also shows that users perceived advertising communication as fundamentally non-malicious but poorly executed.

5.2.3 Threat to autonomy. Another reactance-triggering factor was connected to the perception of advertising email as a straightforward threat to users' perceived autonomy. Participants often mentioned that they prefer looking for something on the internet over receiving advertising emails. Our results are in line with previous findings that users often act against proposed recommendations when they feel their autonomy is threatened [8], as the mere fact of recommending something via advertising emails is perceived by users as an attempt to manipulate their will in order to have them make a decision in the marketeer's interests.

> **P17**: Yeah, I don't trust advertisements, you know? Yeah because [...] they want to convince me to buy something [...] if I need something I will search for something. My brain is thinking like that.

5.2.4 Perceived surveillance. The lack of relevance of advertising emails is widely discussed [58, 85], and various advertising email systems support the collection of more specific user information to provide more personalized content. However, we found that even though advertising emails are perceived as not personally relevant enough, participants are critical of these attempts to use data to increase personal relevance.

> **P25**: Maybe my name and my personal information are also directly shared with other third-party agencies. So a little bit concerned about data security and also about my data protection. I don't know how they handle it. If they send them [personal data] to some companies, they would also ask me to confirm if I'm okay with they are storing such data.

The main pain point for users was that they have no control over the information provided on the web, and as they do not know how the information came to a certain advertising agency, they feel tracked. These findings align with prior research by [93] and [25], where the privacy costs of tailored personalization were perceived as higher than the potential benefits. Several of our participants mentioned that their fear of being tracked affects their unsubscribing behavior. They expressed the concern that unsubscribing may prove to advertisers that this email account is still working and so could be a legitimate goal for other advertisers.

> **P7**: I guess by doing that actually give them more information. Kind of confirms that my account is real.

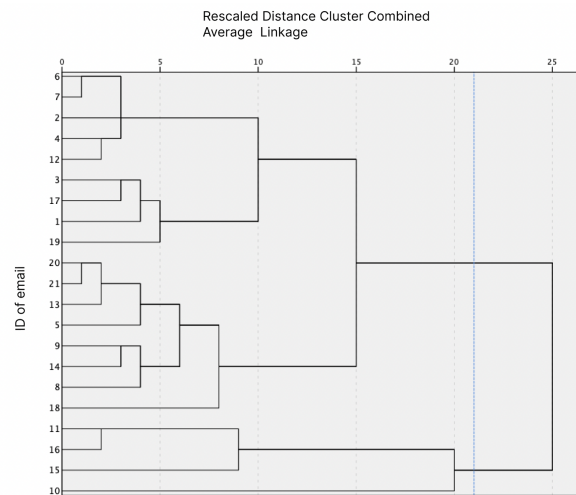## 5.3 RQ 2: Perception of persuasive tactics in subject lines

Figure 3: Clusters of advertising emails based on their proximity in users' actions

5.3.1 Perception and effects of the tactics on users' actions in the experimental inbox. The results of the analysis of the emails showed higher similarities between emails N 10, 11, 15, and 16, compared to the other emails. Analyzing the differences, this group of emails received higher scores in marking as spam and reporting and lower scores in opening. Thus, we assumed that the characteristics of these emails make them less persuasive or acceptable for users. Users' think-aloud comments confirmed that they perceived the extended subject line as not providing vital information, attempting to manipulate users via false curiosity (click-baiting), and playing on users' emotions to make them open the email. These "least liked" emails also included one example of the "Deception" tactic. Paradoxically, the second email that used the "Deception" tactic (email N17) was not perceived equally negatively, although users did notice it. We hypothesize that this could be connected with the absence of the "Strong Affect" tactic in this subject line. This hypothesis is also supported by the data clustering by tactics (cf. Fig. 4). Our analysis found more similarities between the "Strong Affect" tactic and the "Deception" tactic, in contrast with other tactics, in terms of lower open rates and higher spam marking and reporting actions. Still, as both analyses were conduced on the same set of emails, the results are highly dependent on each other and the dataset and need further study.
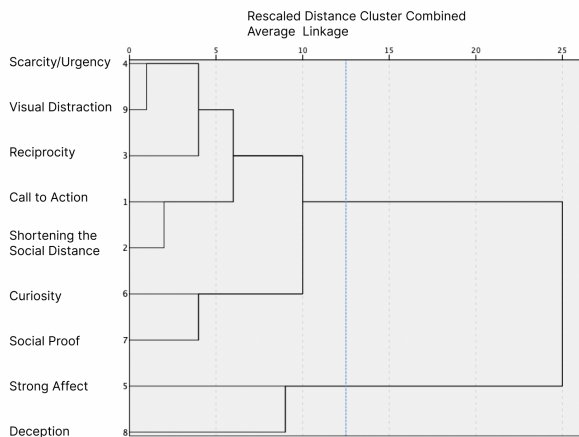

Figure 4: Clusters of persuasive tactics based on their proximity in users' actions

5.4 Users' attitudes towards persuasive tactics

In general, users had doubts about the effectiveness of the persuasive tactics, which might be due to the high level of persuasive knowledge that users demonstrated (they pointed to how advertisers tried to persuade them to open the email or draw their attention to it). For some users, using these tactics was considered a manipulative attempt and raised questions about the quality of the proposed goods.

> **P20**: Whatever seems a bit too much would seem manipulative to me, and then I would be very careful because it would make me think why do they need

to make use of these tactics if the product is not good enough by itself?

Some participants stated that inappropriate tactics harmed their image of the company and might make them search for another provider. The effect of "bad" tactics is mitigated by previous commercial relations with a company and the absence of alternatives. Most of the participants discussed the dichotomy between the effectiveness and the appropriateness of a tactic. Apart from the "Deception" tactic, which was found to be primarily unacceptable, the most ethically controversial one was the "Scarcity/Urgency" tactic, which confirms the findings from the inbox interaction part of the study. These two tactics were seen as manipulative and created distress, distorting users' ability to make independent decisions.

Several participants claimed that none of these tactics would work on them but could be effective on others. Two of the participants claimed that apart from "Deception", it is possible to use each tactic in both good and bad ways. One participant also mentioned that these tactics make advertisement email subject lines more different and less dull.

5.4.1 Call to Action and Scarcity/Urgency. Several users pointed to the similarity between the "Call to Action" and the "Scarcity/Urgency" tactics. Both were perceived as having "pushing" components to encourage fast decisions. For many participants, the tactic of attempting to push them into a decision they perceived as completely inappropriate resulted in a higher level of reactance.

> **P5**: Whatever says urgency, hurry up, and it's like no, I don't want people to press me. I almost always delete them. I don't open them.

Even participants who considered these tactics acceptable stressed that a company needs to have serious reasons (e.g. limited Black Friday sales). The main difference between the "Call to Action" and the "Scarcity/Urgency" tactic is that the latter is perceived as going beyond pushing, jeopardizing its trustworthiness. Several participants mentioned fake scarcity claims.

> **P21**: For me this it's no longer urgent because it's always urgent. They always send you that it is urgent.

5.4.2 Shortening the Social Distance. For many of the participants, the "Shortening the Social Distance" tactic was perceived as a violation of the rules of neutrality and proper business communication.

> **P24**: There is still a space between the company and me, for example, that makes the company looks completely unprofessional.

While several participants appreciated the company's attempt to appear more friendly and less formal,

> **P22**: It would be good to shorten the social distance […]and familiarize yourself even more with the brand, and have like human contact with it.

it was also perceived as unprofessional and manipulative by many participants.

> **P21**: I'm a customer. You are a company. You make a product. I buy it. It is that simple. Don't need to make look friendly because that's just fake.

5.4.3 Curiosity. Of all the mentioned tactics, "Curiosity" received the most favorable feedback as a rather appropriate and effective tactic.

> **P5**: I think it's good if it sparks your curiosity [...] I find it acceptable. **P11**: So curiosity probably gets me, you know [...] maybe I'm just a curious person.

One participant pointed out that it is important not to cross the line to become clickbait. Clickbait could be described as "curiosity for curiosity's case" or cases where curiosity becomes non-relevant to the promoted product, misleading, or sensationalized [56]. Our participants found this tactic extremely inappropriate, similar to the findings of Zeng et al., who addressed online advertising, in general [101].

5.4.4 Reciprocity. For many of the participants, the use of the "Reciprocity" tactic was considered acceptable.

> **P25**: I feel like it's quite a positive for me and at least I don't have any bad impression or at least they never specifically asked me to do something. [...] I don't feel pressured.

In combination with genuine, personal recommendations inside the email, it could work as a legitimate advertising communication model. The term "genuine" is important here because if participants thought the company is just claiming to provide personal recommendations (but in fact is not), they saw the tactic as highly manipulative and non-acceptable.

> **P7**: That's a nasty one. Yeah, they did a favor as if they did something for me. So I have to yeah, that one was kind of new to me like I know what they're doing [...] indeed there's reciprocity, they did something for me and I have to kind of now. Yeah, I appreciate all of the effort that they've done, which is automatically generated by algorithms.

5.4.5 Visual Distraction. We noticed mixed opinions about this tactic. Some participants found it malicious because its creates visual noise and drawes attention toward the stimulus. In contrast, two participants found that visual features in subject lines helped them distinguish advertising emails from other emails, which was a positive feature for them.

> **P26**: It says to me that it's really an advertisement. If you have time maybe you want to take a look at it.

In general, the participants thought that visual cluttering is a rather ineffective feature, but some mentioned that they like certain emojis, even if they can make communication less business-oriented. They also suggested not to make the extended subject line too visual because it can look cluttered. However, the use of a limited number of emojis was considered appropriate.

> **P1**: I mean I'm okay with using emojis in the subject as long as they don't exaggerate, sometimes brands use two, three, or four emojis in the subject, which I don't find very pleasing or very attractive or professional.

5.4.6 Social Proof. As in the case of the "Scarcity/Urgency" tactic, users pointed out that social proof claims are overused and often unjustified. The participants also pointed out that advertisers don't always relate to a relevant group of customers and instead use broad terms like "everyone" to create social proof, which they perceived as not trustworthy.

> **P23**: Do you have proof that everyone loves this? Show me proof. But good proof.

Some of our participants proposed a more credible way to use the social proof claim; they connected it to a specific group of people ("our clients") or proposed better foundations for claims ("based on N of reviews").

5.4.7 Strong Affect. Most of the participants found this tactic manipulative, as they perceived it as an attempt to influence their decision by pushing them into a specific emotional (non-rational) state.

> **P20**: They [scarcity/urgency and strong affect tactics] would also rather put me off from opening or keeping the email because I would always ask myself why it is necessary to create such a hurry or to evoke such strong emotions in me.

Another criticism of this tactic was connected to the overuse of exaggerated emotions, which have become a standard in advertising communication and are perceived as "fake emotions" and signs of spam.

> **P19**: [advertisers] use it many times and as the customer, I am used to the emotions they show [...]they are doing the same thing again and again.

5.4.8 Deception. All our participants discarded any deceptive attempts on the inbox level as entirely inappropriate. In their view, it immediately ruins their relationship with the company and creates a negative view of the product.

> **P24**: They should not lie to their customers because how can we trust them if they're already lying to us [on the inbox level]? How do we know that their product is a good one?

Answering our question about how often participants encounter this tactic, we found that it is more popular than we expected, even among reputable companies.

> **P32**: Yeah, that's quite often. And then you think that's actually an email from something where you have written to somebody or whatever. And then you see it's actually advertising.

5.5 RQ 3: Perceived quality of the categorization from the users' points of view

Analyzing the think-aloud data, we found that users applied concepts similar to our categorization of tactics to justify their reluctance to open emails, even before we introduced them to our categorization scheme. Several participants pointed to visual clutter as a "red flag" to avoid opening emails. We also found criticism of the "Scarcity/Urgency" and the "Call to Action" tactics, as users explained that some subject lines try to force them to make a fast decision and evoke the sense that they might lose the deal. One participant commented on the emotional exaggeration of several subject lines. Most participants also highlighted that some emails use curiosity to push them to open the email. These data thus provide additional support for the quality of our categorization.

When introducing our participants to the categorization of persuasive tactics during the debriefing interview, we received additional evidence that our categorization is understandable by users and that they can use it to describe their experience with persuasion in advertising emails. Most of our participants found the proposed categorization comprehensive and relevant.

Most participants hesitated to add additional tactics. One of the proposed tactics included listing the price or discount (numbers) as part of the subject line. P13 proposed using an appeal to social good or charity, which we did not encounter in our experimental email box. P14 suggested using relevant real-world news connected to the topic of the advertising to make the relevance higher. Several participants proposed combining the "Call to action" and "Scarcity/Urgency" tactics. Finally, "Scarcity/Urgency" seemed close to "Strong Affect" tactics for one participant, as both invoke emotions (excitement and fear). P3 found a similarity between the "Shortening the Social Distance" and "Reciprocity" tactics, as both exploit friend-like relations with customers, and P21 found that "Reciprocity" is close to social proof. Based on the feedback and the results of our first study, we plan to reconsider the "Call to action" category and better define its difference from "Scarcity/Urgency".

In general, users do not see the use of persuasive tactics in emails as an effective way for advertising communication, with the exception of the "Reciprocity" and "Curiosity" tactics. Instead of using persuasive tactics, our participants proposed using a plain subject line that briefly and neutrally explains the deal.

For the participants, this type of subject line represents an "honest approach" and helps build trust between the advertiser and customer. In contrast to a previous study [57], participants did not mention the entertaining dimension as part of an effective subject line. The reason may be that this entertaining quality could be relevant to the body of advertising emails but not to inbox-level interactions, where the clarity of the proposal might play the main role (which is also supported by the findings of DeAngelo and Feng [26]).

6 GENERAL DISCUSSION

Our study shows that despite the clear distinction participants made between spam emails and advertising emails, both are perceived as intrusive and time-consuming. This contributes to the creation of a "grey zone" of email [54]: emails are not marked as spam but still have a limited opportunity to be opened. With 333.2 billion emails sent and received per day [84], a large portion of which are advertising emails that are never opened, we can expect a large impact in terms of energy, internet traffic, and server space. This raises concerns about their effect on our carbon footprint [91]. In addition, we found that users have negative attitudes and experiences towards advertising emails, especially when they perceive their quantity as too high and their content as not reflecting users' interests and needs. To better understand how advertisers try to mitigate this problem by using persuasion in advertising emails, we developed and investigated a categorization of persuasive tactics in advertising emails' extended subject lines. While future studies should address a better definition of the "Call to Action" tactic and its relation to the "Scarcity/Urgency" tactic, in general, the tactic-based approach was found to be relevant for describing the nuances

of persuasion in advertising emails. Our findings are relevant in three different respects.

First, current email advertising strategies (oriented more towards the number of emails and extending mailing lists) should be reconsidered, as users are uncomfortable with them. Our study showed that users strongly dislike subscription strategies where subscribing is necessary to receive services. These practices were described as "forced subscription" and led to negative emotions and avoidance reactions, in line with reactance theory.

Second, personalization in email advertising is controversial. Our participants preferred personally relevant advertising, but also expressed perceived surveillance. Thus, their concerns about privacy seemed to outweigh the potential benefits. This imbalance between the benefits and risks of personalization calls for reconsidering current strategies of using personal information in advertising emails. Third, our findings revealed that even though users find some persuasive tactics acceptable (especially "Curiosity" and "Reciprocity"), they generally raised ethical concerns.

(1) The "Deception" tactic was particularly criticized. In our examples, advertisers attempted to make the situation less offensive by explaining their use of this deceptive practice in the advertising email itself, often using a joke. Still, our participants expressed that the deception in the subject line damaged trust and raised concerns about the legitimacy of the business.
(2) Tactics that attempted to push customers to make fast decisions were perceived as ethically inappropriate, especially the "Call to Action" and "Scarcity/Urgency" tactics. These tactics were perceived as intrusive threats to autonomy because they attempted to make users perform actions without reflection.
(3) The same criticism applied to advertisers' approach of transferring emotions to the customer and manipulating them by evoking emotions. As emotions were generally perceived as difficult to control at the level of reasoning, participants felt vulnerable to this type of attack and demonstrated a high level of criticism toward it.

These tactics (straight deception, pressuring, emotional manipulation) are also widely discussed in the contexts of ethics and widespread manipulative interfaces, known as "dark patterns" [42]. Although the harm of such design decisions is difficult to quantify, consumer protection authorities have started to classify these tactics as unfair commercial practices [64]. In addition to these regulatory efforts, the results of the present paper could contribute to a future area of research showing how users perceive current advertising practices as unnecessary and unethical persuasive attempts.

Although the results for the other persuasive tactics were more diverse, we found strong evidence that the use of persuasive elements in subject lines was generally perceived by our participants as demonstrating a lack of respect for their freedom of choice and ability to make independent decisions. This finding supports earlier research [10] arguing that intrusiveness and lack of respect for customers surpass ethical limits and must be avoided. Some participants even stressed that subject lines should be as unbiased and plain as possible. They considered any persuasion-oriented cue in the subject line as manipulation because the presented information

alone is not relevant enough to attract customers without additional tricks. While this is a strong view that was not shared by all our participants, our results clearly demonstrate that advertisers should consider the user experience created by their subject lines. Thus, we argue that more transparent and information-oriented subject lines might mitigate the current negative perception of advertising emails as manipulative and help companies create more ethical and trust-based relations with their users. In the following section, we provide several recommendations for how this might be achievable.

7 RECOMMENDATIONS

Numerous studies have found that users are dissatisfied with advertising emails [24, 27, 65, 70], but the most prominent solution to this issue still relies on automatically filtering and moving advertising emails to separate folders [6, 61, 86]. While this approach might help lower feelings of overload, it does not make interactions with advertising emails more desirable and comfortable for users. Based on our findings, we propose two sets of recommendations to mitigate ethically-controversial persuasive tactics and give users more fine-grained control over advertisements in their email boxes. The first set of recommendations mainly addresses advertisers, while the second set addresses users and email service providers. A brief summary of the recommendations is presented in Table 2.

7.1 Recommendations for advertisers

In this section, we address the main problems our users mentioned concerning the current state of general email advertising practices and the effects of persuasive tactics on user experience. We formulate recommendations for advertisers wishing to avoid these problems.

7.1.1 Apply alternative subscription models. Our results clearly show that users dislike advertising strategies that coerce or manipulate them into subscribing. Users were often aware that they had agreed to sign up but still viewed these strategies as a forced subscription. This impression resulted in reactance and bad feelings towards the advertisers. Thus, it is necessary to find alternative ways, such as to actively **proposing subscribing only after several interactions with the company (e.g., only after customers have made at least two purchases)**. This might make "special promotions" feel truly special because they would signify a close relation to the company.

7.1.2 Give users a means to customize the level of privacy and personalization. Our results showed a conflict between the need for privacy and personalization to get personally relevant recommendations. Users were deeply concerned when advertising emails used information that they did not knowingly share with the advertiser, but also disliked advertising emails that were not targeted toward their interests. Thus, **advertisers should transparently disclose sources of information and ask for explicit approval before using them. In line with the idea of "privacy by design," the default should be to not use any external data.** Furthermore, users expressed a need for autonomy. Thus, **we suggest that advertisers provide easily-reachable customization options. Users should be able to adjust the number, topics, and timing of advertising emails.**

7.1.3 Prioritize transparent and straightforward information when formulating subject lines. Another problem frequently mentioned by our participants was that persuasive tactics obfuscate the key information and make it difficult to make an informed decision about opening an email. Previous research found that users prefer informative and straightforward subject lines for surveys [14]. Our findings suggest that this generalizes to the advertising domain. Although some persuasive elements can raise interest (especially "Curiosity," which was generally perceived as favorable), **advertisers should prioritize trust and a positive user experience by formulating honest and transparent subject lines.**

7.1.4 Eliminate unethical persuasive practices. Several persuasive tactics were perceived negatively by most of our participants. Some users accepted "Scarcity/Urgency" if it is properly justified (such as Black Friday sales), but in general, it was perceived as "fake" and "manipulative". "Strong affect" and especially "Deception" were repudiated by a large majority of our users. Thus, **we strongly suggest minimizing use of these persuasive tactics, especially "Deception".**

7.1.5 Avoid visual cluttering and use emojis only when they fit the context. Our participants demonstrated a strong negative attitude towards "visual distraction", especially in the form of typographic elements like capital letters or unusual punctuation. These were judged as unprofessional, manipulative, and "spammy." However, the use of emojis elicited more nuanced reactions. On the one hand, emojis were perceived as not conforming to professional and business content, but on the other hand, our users accepted emojis when they fit the context. Thus, **we suggest carefully limiting emojis to specific situations where they fit the context and avoiding other means of visual distraction.**

7.1.6 Limit informal styles of communication to selected contexts. We observed mixed reactions to the persuasive tactic of "Shortening the social distance": While some users perceived it positively, others judged it as fake or inappropriate for particular groups of users (such as the elderly, who expect a more formal style of business-client relations). **We suggest limiting use of this tactic only to cases where existing relations with clients suggest an informal approach and using a more formal style in all other cases.**

7.2 User-side solutions for mitigating advertising email problems

While our previous recommendations were addressed primarily to the advertising community, we also suggest developing and implementing user-side solutions as follows. These solutions would mostly require collaboration between users and email service providers to help users deal with persuasive practices.

7.2.1 Tools for controlling the number of emails from an advertiser. The number of emails was perceived as a problem for most of our users. Thus, we propose implementing inbox-based solutions that allow users to restrict the maximum number of emails they agree to receive from each advertiser. For example, email tools could collect and combine emails from an advertiser and send a digest with links to the original emails at dedicated times.

Table 2: Brief summary of recommendations

Finding	Example quotes	Recommentations
Forced subscription	**P11**: I probably had to sign up for an account, […] you have to then accept these terms and in those terms is that you cannot not accept the email subscription. **P15**: [mentioned company] automatically sign you up for a mailing list there you have no other option [not to be subscribed] presented to you upon creation of the of the account.	**Advertisers:** • do not make subscription obligatory; • do not enforce unwanted subscription; • propose subscription only after several interactions with users.
Concerns about privacy and autonomy	**P25**: The negative side [of personalizing] is […] that my name, my personal information is also directly shared through to other third party agencies; **P27**: I feel like I'm tracked.	**Advertisers:** • do not use any external user data by default; • give users the opportunity to customize number of emails and topics. **User-side solutions:** • tool for controlling N of emails from one advertiser; • privacy scanner tool.
Obfuscation of information in subject lines	**P20**:[use of tactics] seems […] manipulative to me and then I would be very careful because it makes me think why do they need to use these tactics, is the product not good enough by itself? **P10**: I would get away from distractions and try to already say in the title what this email is about,	**Advertisers:** • formulate clean, honest and transparent subject lines;
Unethical persuasive tactics (Deception, Strong Affect and Scarcity/Urgency)	**P7:** This [deception] is unacceptable[…]There's no way you can justify this. **P20:** [I think] strong affect [is bad] because I think it's very manipulative; **P6:** I don't like this scarcity urgency because I know these are fake imperatives to make […] an emergency […] to buy today.	**Advertisers:** • eliminate or at least minimize use of Deception, Strong Affect, and Scarcity/Urgency tactics. **User-side solution:** • Inbox-level reporting tool for unethical persuasion.
Annoying visual clutter in subject lines	**P10:** [Clutter] is kind of interrupting your your reading and it's making it seem very aggressive; **P6:** if there are too many emojis, the impression there is a bit unprofessional	**Advertisers:** • avoid use of visual clutter; • apply minimalist, content-guided use of emojis.
Informal style of communication is perceived as unprofessional	**P16**: I wouldn't like [when companies use informal greetings] it because as a customer I expect to see "Dear Mr.", but not my first name. I'm not talking to my best friend. **P24**: There is still a space in between the company and I and for example, that [use of informal style in the email's header] makes the company completely unprofessional.	**Advertisers:** • limit use of an informal style of communication to specific products and existing relations with users; • use formal style of communication by default.

7.2.2 Privacy scanner tool. Our participants mentioned several cases where they were not sure how advertisers received their personal information or shared it with other advertisers. Previous studies showed that in a corpus of email subscriptions received from 15,000 websites, up to 70 percent of emails contained tracking [32]. Third-party data sharing makes users suspicious of all advertising practices in general. To mitigate this problem and help

users maintain their privacy, we propose an implementation that highlights possible third-party data sharing in the email and informs users about solicited and unsolicited data sharing in each advertising email.

7.2.3 Inbox-level reporting tool for unethical persuasion. Users reported that they have very limited mechanisms to inform a company about the inappropriateness of their advertising, such as deleting

the email or marking it as spam. Deleting does not provide any information to the company, and marking emails as spam can have a long-term effect on the company's email distribution, giving it very little clue about the reasons. Furthermore, some participants were worried that clicking on an unsubscribe link could give the company information about themselves. This leads us to question the effectiveness of proposing an "unsubscribe" link in an email as the only option to allow participants to indicate that they do no longer want to receive advertising emails from a business. Importantly, the advice of clicking on an "unsubscribe" link in an email is at odds with anti-phishing advice to avoid clicking on links from not fully trusted senders. Users currently have no pragmatic way of checking if the target URL of an unsubscribe link is legitimate.

To make communication between advertisers and users more transparent, we propose an additional inbox-level labeling mechanism to mark the inappropriateness of emails for users. This mechanism could generate inbox-level feedback about email perception and provide a better, more ethical way to present advertising offers to users. For example, users can mark the email as inappropriate and optionally specify a reason. The mechanism could then send an anonymized report to the company and to the email service provider. These reports could also be used to train machine learning algorithms to recognize inappropriate actions in emails automatically. This information could be used to suggest enhancements to users' experiences. For example, if users indicate that they dislike the intrusive look of emojis in subject lines, an email software could de-emphasize the visual look of emojis by using grey versions.

8 LIMITATIONS AND FUTURE WORK

This study used a sample of university students and employees, who might have higher levels of education and technology literacy than the general population. This may restrict the generalizability of the findings. In future work, we plan to expand the sample by adding people with more diverse educational backgrounds. It has also been shown that cultural factors play an important role in the interpretation of subject line persuasion attempts [73], so future studies should also include a broader international sample. Contextual factors (e.g., time, place, and social situation in which the interaction with the advertising email took place) may play a role in how people treat emails. Even though we probed these factors during the interview, the lab study was not designed to observe such contextual factors in situ and future research should address this. We used a prototype of an email inbox modeled on the Gmail interface and specifically simulated a dedicated filtered folder for advertising emails. We purposefully created this interactive prototype to avoid violating participants' privacy by using their real email inboxes. However, this trade-off might have influenced the reactions we could observe. In particular, although the filtered advertising folder is a real functionality in various email providers, it did not allow us to assess how user experience changes when advertising emails are mixed in with personal and work emails in the main folder. Furthermore, we used fictitious sender names to eliminate familiarity effects on users' reactions to the persuasive tactics. As a result, we could not observe whether users evaluate persuasive tactics differently when they know or even have engaged with the senders, as the sender's name is indeed an important cue

for inbox-level decision-making [69]. Future studies should build on our work to further investigate such contextual factors. For example, researchers could create prototypes that mix advertising emails with other emails and compare the results. Alternatively, researchers could create an email plugin that allows users to report and provide feedback on a particular email without showing the other emails in their inbox. Such a study could investigate whether our findings generalize to a larger population and longer periods of time. Because the primary goal of the use of interactive prototypes was to understand which elements of subject lines design triggered the actions toward emails, our analysis was primarily oriented toward the users' actions and used a limited set of emails to be able to compare users' reactions. In future studies, we plan to use a more detailed approach to the think-aloud data, using a bigger sample of advertising emails, to receive a more nuanced picture of users' feelings towards email subject lines. As we showed the developed list of tactics to the participants before asking for their opinion about the tactics, participants were influenced by these tactics and therefore limited in their ability to propose their own categories. This limitation was mitigated by having the participants explain the advertising tactics they see in everyday life and in the experimental inbox from the previous stage of the experiment. The tactics they mentioned here were in line with our list. Still, based on the combined data from the interrater agreement and from participants' interviews, we plan to further develop our categorization by organizing a co-creation session with participants.

9 CONCLUSION

As one of our participants told us, advertising emails need a big revolution. The development of opt-in practices, intended to create clear boundaries between spam and advertising emails, has resulted in a "grey zone" of advertising emails that are formally solicited but not wanted by users. In this study, we try to analyze which factors put emails into this "grey zone" and how advertisers' attempts to persuade users to open the email affect users' interaction with the email and its provider. We operationalized these attempts in the form of advertising tactics and described how the use of different tactics is perceived by users. We showed that while established relations with businesses play a bigger role in the decision to open a given email, the persuasive tactics have effects in the short term (on opening or not opening a particular mail) and long term (creating persuasive knowledge regarding advertisers). Most of the effects we found were on the negative side, and users advocated a more clear, non-manipulative way of presenting advertising emails. Based on these results, we strongly advocate for reshaping the current practice of advertising emails toward a less manipulative and more user-centered approach.

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A SUMMARY OF IDENTIFIED TACTICS

Table 3 summarizes the categorization of persuasive tactics used in extended subject lines of advertising emails'.

B MAIN STUDY PROTOCOL (SEMI-STRUCTURED INTERVIEW GUIDE)

B.1 Interview Part One

- Do you know what advertising emails are?
- How many of them do you receive usually?
- What is the distinction (if any) between advertising emails and spam emails?
- How do you usually interact with these emails? (+ ask follow-up questions depending on answers, such as:)
  - Is there some time of the day when you are more willing to open these emails?
  - What is your motivation to open these emails (if you open them)?
  - Does your interaction with these emails change when you are in a rush or if you have a lot of time to spare (e.g., waiting for an appointment)?
  - What typically affects your decision to open/not to open the emails (could be the name of the company, the specific deal you are awaiting, or the way the proposal is presented)?
  - Could you please provide some examples of your decisions?
  - What are your actions with annoying emails?
  - Do you unsubscribe?
- Do you remember a particular experience with that type of email?
- What were your findings after that experience?
- Did it change your behavior towards permission-based advertising emails?

B.2 Interaction with Email Inbox Prototype

Before starting their interaction with the email inbox prototype, the participants received the following scenario, printed on paper:

This is your **email box**. Over the years, you have **subscribed to several commercial email lists**. Here you can see some commercial advertising emails. Because you have visited these web pages before, some of the offers proposed in these emails are relevant to your interests. Your goal will be to go through this email box and **make decisions** concerning the presented emails. Please **think aloud** while you perform the task by explaining your thoughts, feelings, actions, and other relevant aspects so that **I can follow along**.

Afterwards, the researchers explain the user interface of the email inbox prototype, particularly the different actions. During the interaction, the researchers took observation notes.

B.3 Interview Part Two

- What do you think about the presented emails in general?
- Do you remember some of the emails in particular?
- Which ones and for what reasons?
- If so, could you name the exact lines?
- Could you summarize what you think created the effect that you described?
- (+ ask follow-up questions derived from the observation notes)
- Could you share your feedback about the full procedure?
- Does it affect or not affect the way you now look at the emails in your inbox?
- What should be done regarding practices you find unacceptable?
- Any other feedback you can give about this experience before we share more details about the study?

When participants indicated having shared all of their experiences and having no further questions, we introduced them to the categorization of persuasive tactics. We explained each tactic one by one, including examples:

- Now that you have participated in the study, I would like to provide you with more details about our intentions. We are planning on suggesting a classification of the strategies that marketers use in their emails to persuade people to open them. I would like to introduce this classification to you and ask you to share your thoughts about it.
- (explain the categorization of persuasive tactics)
- Do you have any feedback about the persuasive tactics?
- Did you notice the persuasive tactics in the experiment?
- Do you notice the persuasive tactics in your regular inbox?
- Could you help us make the list larger? Are there any tactics missing?
- Are there any unnecessary tactics or any tactics that you would reorganize?

C USERS' ACTIONS TOWARDS ADVERTISING EMAILS IN THE INTERACTIVE PROTOTYPE

Table 4 includes a summary of actions taken by participants towards each of the emails in the interactive prototype.

D PARTICIPANTS' DEMOGRAPHICS AND SELF-DECLARED FAMILIARITY WITH ADVERTISING EMAILS

Table 5 presents demographic information about the study participants, their self-declared familiarity with advertising emails, and previous professional experience in marketing. Employee participants employed as doctoral students are specified in the table as "PhD students".

Table 3: summary of identified tactics

Tactic	Definition	Examples	Based on
Call to Action	Push the recipient to take an action	**Grab** the deal!; **Take** 20% off! **Shop** and **save** even more.	practitioners' recommendation, Cialdini's principle of **Authority**
Shortening the Social Distance	Present the relationship as if it was a friend relationship	**Hey USERNAME, I** appreciate you ...; **Hi** from your inbox; **Hi USERNAME, Good morning!**	practitioners' recommendation, Cialdini's principle of **Liking and Similarity**; Gragg's principle of **Deceptive Relations**
Reciprocity	Imply having done a favor, expect recipient to open the email in return	**We collected** the best options **for you;** Look what **we found for you.**	practitioners' recommendation, Cialdini's principle of **Reciprocity**, Gragg's principle of **Reciprocation**
Scarcity/Urgency	Imply that an offer is scarce and expiring soon	Hurry! Up to 80% off **ends tonight!**; **[LAST CHANCE}:** Your Free Coupon is **about to expire;**	practitioners' recommendation, Cialdini's principle of **Scarcity**, Stajano and Wilson's **Time** principle
Strong Affect	Use of emotionally exaggerated wording	I am **so excited** and know you'll **LOVE** it; **Ooooh**, This is **Perfect** For You.	practitioners' recommendation, Gragg's principle of **Strong Affect**
Curiosity	Create curiosity to open the email	**Dreamed about perfect skin?** **Good vs. Great: who are you?**	practitioners' recommendation, **curiosity in phishing attacks** (Krombholz et al.)
Social Proof	Imply high value of an offering for a social reference group	**Our Customers**' Favourite products! **Everyone** loves this hair solution.	practitioners' recommendation, Cialdini's principle of **Social Proof,** Stajano and Wilson's **Herd** principle
Deception	Imply that an advertising email is not an advertising email, but part of an ongoing exchange	**Fwd:** VIP Customers Only; **Re: Shipment May Be Late;** **Re:** An extra 10% off your next trip.	practitioners' recommendation, authors-generated
Visual Distraction	Use of visual elements to drag involuntary attention	**DOORBUSTER SAVINGS** Apparel 📱 Tech 💻 Gifts 🎁 Home🏡 ⏰ Extra 30% **OFF** ⏰ **FINAL HOURS** 💰	practitioners' recommendation, Gragg's **Overloading** principle, Stajano and Wilson's **Distraction** principle

Table 4: The main actions participants took interacting with the email inbox prototype. The inbox-level persuasive tactics included in each email's extended subject line were coded as follows: 1 - Call to Action, 2 - Shortening the Social Distance, 3 - Reciprocity, 4 - Scarcity/Urgency, 5 - Strong Affect, 6 - Curiosity, 7 - Social Proof, 8 - Deception, 9 - Visual Distraction.

Email ID	Inbox-level tactics	The email was open	The email was deleted	The email was marked as spam	The email was reported	The email was kept/sent to a friend (from the "other actions" comments on the prototype)
1	1,2,9	13	21	9	2	4
2	1,9	16	22	3	2	6
3	1,3	16	23	9	2	3
4	2,9	18	22	6	1	8
5	6,9	14	19	5	3	7
6	no tactics	14	21	6	1	5
7	6,9	15	22	6	1	6
8	1,5,9	17	18	5	2	10
9	1,4	13	17	6	1	11
10	5,8	13	16	13	8	6
11	6,7	10	21	10	2	4
12	4,9	16	22	6	3	7
13	3,5,9	14	16	9	2	8
14	3,9	16	16	8	1	11
15	5,6,9	9	20	14	6	3
16	1,6,9	8	23	10	3	3
17	1,7	13	25	9	2	4
18	7,8	17	15	10	4	8
19	1,4	15	22	11	5	5
20	9	15	18	7	3	8
21	1,4,9	14	18	8	2	7

Table 5: Participants' demographics and self-declared information about familiarity with advertising emails and previous experience in marketing.

ID	Age	Gender	Field	Professional status	Familiarity with advertising emails	Marketing/Advertising professional experience
P1	21	Male	Business Management	BA student	10	no
P2	30	Female	Behavioral Economics	PhD student	6	no
P3	24	Female	Engineering	PhD student	9	no
P4	23	Female	Wealth Management	MA student	6	no
P5	31	Female	Humanities	MA student	6	no
P6	35	Male	International Relations	MA student	8	no
P7	30	Male	IT	Employed	10	yes
P8	31	Male	Computer Science	PhD student	9	no
P9	37	Female	Data science	PhD student	8	no
P10	28	Female	Geography	PhD student	7	no
P11	33	Female	Computer Science	BA student	6	no
P12	28	Male	Civil Engineering	MA student	–	no
P13	35	Male	Logistics	BA student	1	no
P14	32	Female	Data science	MA student	7	no
P15	23	Male	IT	Employed	8	no
P16	21	Male	Computer Science	BA student	7	no
P17	36	Male	Computer Security	PhD student	8	yes
P18	28	Male	Space Engineering	MA student	6	no
P19	29	Male	Geography	MA student	7	yes
P20	28	Female	Psychology	BA student	6	no
P21	21	Male	Economics	BA student	6	no
P22	24	Male	Finance	MA student	7	no
P23	25	Female	Physics	MA student	6	no
P24	24	Female	Data science	MA student	6	no
P25	30	Female	Economics	MA student	–	no
P26	29	Female	Geomechanics	PhD student	2	no
P27	25	Female	Law	MA student	7	no
P28	24	Male	Computer Science	MA student	8	no
P29	41	Female	Wealth Management	MA student	10	yes
P30	42	Male	E-Learning	Employed	9	no
P31	26	Male	Traffic engineering	MA student	7	no
P32	40	Male	Study Program Admin	Employed	5	no