

Master Thesis

From Doubt to Action: How Ambivalence Drives Confrontative Coping among Wearable Tech Users

An online experiment investigating the effect of ambivalence on confrontative coping and the moderating role of tolerance for ambiguity

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Abstract

Wearable health technologies offer feedback to users, often leading them to experience ambivalence—simultaneous positive and negative feelings. This study investigated whether ambivalence influenced proactive behaviour, defined as confrontative coping, and avoidance coping, referring to disengagement, to manage such tension. It also examined if tolerance for ambiguity (TFA) moderated this relationship, a personality trait reflecting the ability to manage ambiguous and uncertain situations.

An online experiment was conducted (N =157), with participants randomly assigned to one of three scenario-based conditions: ambivalence, negative non-ambivalence or neutral non-ambivalence. The main aim was to test if ambivalence increased confrontative coping and whether this effect was stronger among individuals with higher TFA. Although all scenarios were perceived as realistic, the ambivalence manipulation failed, limiting conclusions about the effects. Nevertheless, TFA emerged as a significant predictor: participants with higher TFA reported more confrontative and less avoidance coping across all scenarios. Additionally, respondents in the negative scenario showed the highest levels of avoidance coping, particularly those with low TFA.

These findings suggest that straightforward negative information may provoke disengagement more than emotional complexity (ambivalence). Personality traits like TFA play an important role in how users cope with wearable feedback in mHealth contexts.

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1 Introduction

1.1 Practical and Scientific Relevance

Wearable devices have rapidly emerged as influential technologies that have the potential to change people's lifestyles and improve their well-being, decision-making and behaviour (Kang & Exworthy, 2022). For example, research has shown that wearables can impact the users' well-being in a meaningful way: one large-scale study found that smartwatches successfully detected signs of atrial fibrillation in 0.5% of over 400,000 participants (Perez et al., 2019). This growing potential is also reflected in the global adoption of wearable technology: 28 million wearable devices were shipped worldwide in 2014, followed by a significant increase to 492 million in 2023, with expectations that the amount could exceed 600 million by 2027 (Statista, 2024). Examples of popular wearable and mHealth devices include the Apple Watch, Fitbit, Oura Ring, and Google Glass, spanning various categories from smartwatches and fitness trackers to smart rings and smart glasses. These gadgets, using mHealth applications, can improve self-efficacy, motivation and a sense of control (Kerrigan et al., 2021; Knight et al., 2014).

With the increasing adoption of wearable technology, a paradoxical effect on users has been identified: while these devices offer numerous benefits for their users, concerns also arise because of their intensive use (Cheung & Saad, 2024; Piwek et al., 2016). Wearables enhance health monitoring, performance tracking and also provide personalized feedback, leading to greater user engagement (Duus et al., 2018). However, wearables also raise issues related to data privacy, tension and psychological dependence, generating ambivalent attitudes among users (Duus et al., 2018; Piwek et al., 2016).

This ambivalence, defined as the experience of holding both positive and negative feelings at the same time, can influence how users cope with these mixed feelings, which refers to the strategies people use to manage psychological stress (Ciuchita et al., 2019; Gelbrich, 2010; Wilson-Nash & Tinson, 2022), either coping in a problem-focused, emotion-focused or avoidance way (Gelbrich, 2010). This potentially affects their long-term engagement with the technology (Mick & Fournier, 1998).

A key challenge for wearable technology developers and marketers is understanding how users manage this ambivalence, as such understanding can help with optimizing marketing strategies or campaigns. Unresolved ambivalence and tension may hinder continued engagement with wearable technology, potentially reducing long-term adoption (Duus et al., 2018; Piwek et al., 2016). Long-term adoption is important to eventually enable laggards as well to adopt a product or innovation, as their adoption typically depends on widespread and sustained use by earlier use groups (Rogers, 2003). However, research also suggests that ambivalence is not purely problematic, as it may also drive proactive behaviour, because ambivalence not only creates psychological discomfort, but it also serves as a motivator to actively address concerns, seek solutions and it boosts creative thinking (Ciuchita et al., 2019; Gelbrich, 2010; Miron-Spektor et al., 2011; Wilson-Nash & Tinson, 2022; Wu et al., 2023). Outcomes like creativity are conceptually aligned with confrontative coping, as both involve actively engaging with challenges and generating solutions, but the relationship between ambivalence and confrontative coping has not been explored yet. Accordingly, this leads to the formulation of RQ1: *To what extent does ambivalence versus non-ambivalence toward wearable mHealth technology affect users' confrontative coping behaviour?*

Despite extensive literature that has researched how consumers cope with technological innovations in stressful and ambivalent situations, less attention has been paid to how individual differences, such as personality traits, influence ambivalence in such contexts. One personality trait that may play a crucial role is tolerance for ambiguity, which refers to an individual's ability to handle uncertainty and conflicting information in stressful situations and how comfortable they are with such ambiguity (Furnham & Marks, 2013; Furnham & Ribchester, 1995; Lauriola et al., 2016). Research suggests that tolerance for ambiguity may even function as a moderating factor in psychologically complex processes, such as the link between ambivalent experiences and proactive responses (Sung et al., 2017). Especially because a higher level of tolerance for ambiguity results in more proactive creativity and problem-solving behaviour (Sung et al., 2017), which aligns with confrontative coping. Thus, this study aims to fill this gap by investigating how ambivalence toward wearable mHealth technology influences confrontative coping from users and whether tolerance for ambiguity moderates

this relationship. Therefore, RQ2 is stated as follows: *To what extent does tolerance for ambiguity moderate the effect of ambivalence toward wearable mHealth technology on confrontative coping?*

1.2 Theoretical and Societal Contribution

The findings of this research will have the following theoretical contributions. By providing empirical evidence on the impact of ambivalence on coping mechanisms, this study addresses a shortage of empirical studies testing the behavioural effects of ambivalence in the literature (Sipilä et al., 2018) and will provide this in the marketing context. It also enhances the understanding of consumer behaviour in the context of wearable technology and mHealth by contributing to research on user engagement and emotional responses to feedback. Specifically, it will provide quantitative evidence of how ambivalent feedback influences confrontative coping strategies, an aspect that is not yet empirically tested within mHealth contexts. In doing so, it contributes to the prior research on technology paradoxes by providing empirical evidence of how users cope with simultaneous feelings of benefit and burden of wearable feedback, which is core to the paradoxical nature of mHealth (Mick & Fournier, 1998; Miron-Spektor et al., 2011; Wilson-Nash & Tinson, 2022). Furthermore, the majority of existing research has focused on the negative effects of ambivalence (Rothman et al., 2017). However, this study builds upon previous research that has linked ambivalent feelings to more positive outcomes like confrontative coping (Qahri-Saremi & Turel, 2020). Additionally, tolerance for ambiguity has been underexplored (Furnham & Marks, 2013) as a potential moderator (Sung et al., 2017), mainly in the context of coping and ambivalence. In the domain of mHealth, prior studies (Duus et al., 2018; Piwek et al., 2016) have identified tensions users experience when interacting with wearable technologies, such as emotional strain and perceived loss of autonomy. However, there is less empirical data on how these tensions translate into concrete coping behaviours or how TFA could influence these coping responses.

The results from this research will also provide insights for wearable technology developers for strategies on how to improve user retention and long-term adoption. Understanding how ambivalence affects confrontative coping and consumer behaviour in general may help these developers or even marketing professionals design better user engagement strategies to reduce the risk

of usage decline even more. Mitigating this risk enhances the likelihood of long-term adoption and thus facilitates the eventual diffusion of the innovation, in this case wearables, to later-stage adopters, like laggards (Rogers, 2003). This study could also provide insights for marketers to tailor their engagement strategies to individual personality profiles for wearable technology users. If tolerance for ambiguity is a significant moderator, marketers could adapt communication or design features to better suit users with varying levels of comfort with conflicting, complex or ambiguous information.

1.3 Structure of the Paper

Chapter 2 consists of a theoretical framework, providing the foundation for the hypotheses regarding the variables ambivalence, confrontative coping, avoidance coping and tolerance for ambiguity, and concludes with a conceptual model based on existing literature. The methodology is discussed in chapter 3, where the experiment is described in more detail and where the validity and reliability of the scales are assessed. Chapter 4 contains the results with corresponding data analyses, including one-way ANOVA and multiple regression. The last chapter concludes the paper with a discussion, limitations and recommendations.

2 Theoretical Framework

2.1 User Experience with mHealth

User experience refers to a person's perceptions, responses and opinions resulting from the use of a product, encompassing emotional, cognitive and behavioural dimensions (Hassenzahl & Tractinsky, 2006). In the context of mobile health (mHealth) and wearable technology, user experience includes emotional, cognitive and behavioural reactions to the feedback these devices give. These reactions are especially noticeable in wearable mHealth technologies, where continuous self-monitoring and real-time feedback tend to influence how users stay engaged and feel about their health (Piwek et al., 2016).

Nowadays mHealth technologies, such as smartwatches, fitness trackers, health-monitoring apps and Oura rings have transformed how consumers manage their health and well-being (Mosa et al., 2012). These mHealth tools can be applied via wearable technologies, which are gadgets that people can 'wear' during their everyday life. They provide real-time feedback on physical activity, sleep patterns, heart rate and other health-related metrics in order for users to set goals and monitor progress (Piwek et al., 2016). Several studies have concluded that mHealth applications can enhance self-efficacy, increase motivation in general and give individuals a sense of control over their health behaviours (Kerrigan et al., 2021; Knight et al., 2014).

While mHealth technologies offer clear benefits, they can also cause psychological challenges that can affect users' experience. Prior research has shown that the use of mHealth applications can cause tension, emotional strain, pressure or frustration (Etkin, 2016; Zhu et al., 2021). This aligns with the concept of technology paradoxes (Mick & Fournier, 1998), which highlights the emotional tension that consumers can feel when the technologies they use both support and burden them. Unmet goals and negative feedback from mHealth devices can cause negative emotional reactions, like disappointment, guilt and anxiety (Chen et al., 2024). When users focus excessively on mHealth outcomes rather than the activity itself, it can also cause negative effects, including physical discomfort, reduced intrinsic motivation for physical activity and negative self-perception (Etkin, 2016). Even more concerning, the use of mHealth technologies may foster obsessive usage to avoid

negative feedback or increase dependency and diminish users' autonomy (Chen et al., 2024). These contrasting outcomes highlight the paradoxical nature of mHealth. This complex form of experience reflects the feeling of ambivalence that results in coping with that feeling, which will be further discussed in the following subchapters.

2.2 Coping

Coping is a term that refers to the cognitive and behavioural efforts that individuals use to manage psychological stress and discomfort (Lazarus & Folkman, 1984). These efforts aim to reduce, tolerate or overcome the challenges or tensions that these individuals experience. Coping can be categorized in two types: confrontative or avoidance. Confrontative coping, as defined by Carver et al. (1989), refers to direct and assertive attempts to deal with a stressor, often involving problem-focused techniques. This is similar to what other research describes as problem-focused coping, which is taking active cognitive, emotional or physical steps to deal with the source of tension or stress (Duhachek, 2005; Lazarus & Folkman, 1984). It reflects proactive, solution-oriented approaches and may include seeking information, solving the problem or adjusting behaviour to directly manage the issue (Lazarus & Folkman, 1984). However, it can also entail asking peers for information about the problem (Mick & Fournier, 1998). This suggests that instead of disengaging, people put effort into continuing the engagement with the product or experience that is the source of their stress and tension. In the context of wearable technology, confrontative coping may involve seeking more information about data security settings, modifying device usage to reduce privacy concerns and engaging with peers to find information from other wearable users.

Avoidance coping, by contrast, entails evading or withdrawing from the source of stress and tension without attempting to resolve the stressor or by ignoring the concerns (Duhachek, 2005). Distraction, denial, delaying action or (mental) disengagement are common actions related to avoidance coping. Seeking support from other peers, particularly when focused on venting out rather than problem-solving, can also be interpreted as a form of avoidance coping (Duhachek, 2005). This aligns with the disengagement responses described by Mick & Fournier (1998) in the context of technology use. While avoidance coping may provide short-term relief, over time it typically does not

eliminate the source that causes the experienced stress or tension and may eventually lead to more discomfort (Lazarus & Folkman, 1984). In the context of wearable technology, avoidance coping could mean that users try to ignore the stress and tension that a wearable causes or the data privacy concerns. A more extreme alternative would be quitting the use of the wearable entirely.

In this research, these two coping strategies form the conceptual foundation for understanding how individuals manage negative experiences related to mHealth technologies. Note that individuals often use a mix of both coping strategies, even though they are presented as distinct and contradictory, depending on the situation and their perceived control over the source that gives them stress or tension (Folkman & Moskowitz, 2004; Lazarus & Folkman, 1984). Their relevance in relation to ambivalence toward wearable technology will be further examined in the following subchapter.

2.3 Ambivalence regarding Wearable Technology

Ambivalence is a term that refers to the simultaneous experience of positive and negative feelings toward one clearly specified object or experience which result in feelings of conflict or tension (Mick & Fournier, 1998; Rothman et al., 2017; Sipilä et al., 2018). When it comes to wearable devices, people may experience ambivalent feelings arise from benefits (e.g. health/performance tracking) being countered by concerns and issues (e.g. data privacy and psychological dependence/stress) when using them. It is important to note that ambivalence is not a static experience per se but more a dynamic one that can change across different stages of the wearable technology adoption process (Sipilä et al., 2018). For example, during pre-adoption, potential wearable consumers may feel ambivalence when weighing the anticipated benefits against the expected issues and concerns (Piwek et al., 2016; Sipilä et al., 2018). During usage, positive experiences like improved fitness may coexist with emerging issues like psychological dependence or the stress because of non-stop data tracking from the wearable device, which could sustain or even intensify feelings of ambivalence (Mick & Fournier, 1998; Wilson-Nash & Tinson, 2022). During the post-adoption phase, experiences such as dissatisfaction or increasing privacy concerns might further increase ambivalence (Qahri-Saremi & Turel, 2020).

In contrast, individuals may also experience non-ambivalent states where there are no

conflicting emotions at all. Indifference and uncertainty exemplify non-ambivalence, as they indicate either an absence of strong feelings/conflict or a lack of knowledge, both of which contrast with ambivalence (Baek, 2010). Thus, for something to be classified as ambivalence, it should simultaneously include both emotional and cognitive dimensions (Rothman et al., 2017). Other non-ambivalent states are purely negative, neutral or positive, lacking any conflict due to the presence of only one single, distinct affective state at a given time. A purely negative state can also cause negative feelings, like frustration or diminished enjoyment, even with the absence of simultaneous experiencing positive feelings (Karapanos et al., 2016).

Although ambivalence is often associated with discomfort, there is also evidence that it can lead to more positive outcomes such as cognitive flexibility and adaptability (Rothman et al., 2017). The simultaneous awareness of both positive and negative feelings actually encourages people to process information from multiple perspectives and thus enhances their ability to adapt to complex and changing situations (Rothman et al., 2017). Furthermore, the paradoxical nature of holding conflicting attitudes drives individuals to resolve these, which stimulates creative thinking (Miron-Spektor et al., 2011). In addition, ambivalence can even cause individuals to take deliberate actions to resolve their conflicting feelings, thus leading to more confrontative coping efforts (Qahri-Saremi & Turel, 2020; Van Harreveld et al., 2009). Although ambivalence can cause discomfort, this attitude actually encourages individuals' systematic information processing and to take deliberate actions to resolve their conflicting feelings, which leads to more confrontative coping efforts (Qahri-Saremi & Turel, 2020; Van Harreveld et al., 2009; Wilson-Nash & Tinson, 2022). Moreover, the nature of confrontative coping aligns well with the flexibility, creativity and active decision-making that is required to resolve ambivalent feelings. Accordingly, the following hypothesis is formulated:

Hypothesis 1a: Ambivalent experiences with wearable technology result in higher levels of confrontative coping compared to negative or neutral experiences.

Given that hypothesis 1a is expected in the results, it logically follows that the same ambivalence may not necessarily reduce avoidance coping when compared to non-ambivalence states. In other words, the following hypothesis is formulated:

Hypothesis 1b: Ambivalent experiences with wearable technology do not result in significant differences in levels of avoidance coping compared to negative or neutral experiences.

2.4 Tolerance for Ambiguity

Tolerance for ambiguity (TFA) is a personality trait which refers to an individual's capacity to function effectively in ambiguous situations where contradictory thoughts and emotions occur (Furnham & Marks, 2013; Lauriola et al., 2016; Nowlis et al., 2002), rather than feeling overwhelmed, uncomfortable and threatened (Budner, 1962). Higher levels of TFA enable users to navigate mixed feelings constructively, since they perceive uncertain situations as interesting and challenging, which positively influences their decision-making processes (Furnham & Ribchester, 1995). Additionally, high TFA results in more proactive responses from individuals when dealing with complex situations, suggesting that they may be better equipped to handle ambivalence (Sung et al., 2017). This is also confirmed in other psychological research, which shows that exposure to contradictory information can foster creativity instead of leading to avoidance (Miron-Spektor et al., 2011). Individuals with lower levels of TFA often experience more stress or confusion when they experience ambivalent settings (Budner, 1962; Furnham & Marks, 2013). This suggests that tolerance for ambiguity could influence whether consumers engage or disengage from using wearable technology when they are faced with ambiguous and conflicting information, where low tolerance for ambiguity may push users toward implementing avoidance coping, since they experience those ambiguous situations as stressful (Furnham & Ribchester, 1995).

Summarizing, how individuals cope with experienced ambivalent feelings toward wearable technology could differ depending on their levels of TFA (Furnham & Marks, 2013). People with high TFA are more likely to react in a proactive, creative problem-solving way, aligning with confrontative coping. Accordingly, high levels of TFA amplify the effect of ambivalence on confrontative coping. Therefore, the following hypothesis can be formulated:

Hypothesis 2: Tolerance for ambiguity is expected to moderate the relationship between experience with mHealth (ambivalence, negative or neutral) and the use of confrontative coping

behaviour, such that the effect of ambivalent experiences on confrontative coping will be stronger among users with higher levels of tolerance for ambiguity.

Based on this chapter, a conceptual model illustrating the relationships between ambivalence toward wearable technology, confrontative coping, avoidance coping and the moderating role of tolerance for ambiguity was created. This model forms the basis for the research hypotheses and is presented in ‘Figure 1’ below.

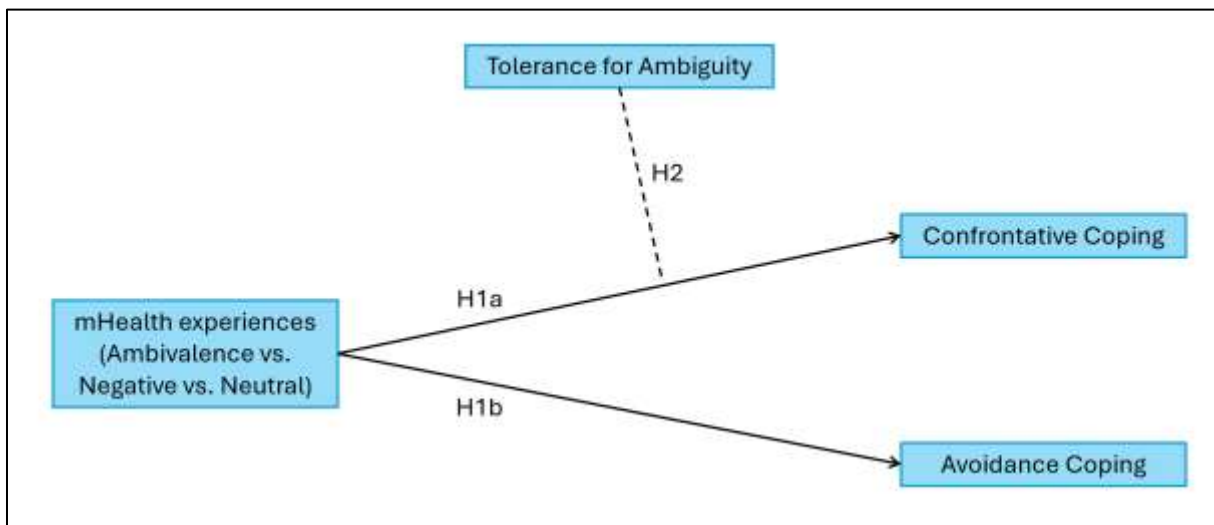


Figure 1: Conceptual model

3 Method

3.1 Research Design

In order to examine how ambivalence toward wearable technology influences coping strategies and how this relationship is moderated by tolerance for ambiguity (TFA), an online quantitative experiment was created. A 3-scenario between-subjects experimental design was used. This experimental method was chosen to better establish causality (Hair et al., 2019) between ambivalence and coping, since this experiment enabled the controlled manipulation of ambivalence and non-ambivalence experiences. Additionally, an online setting increases the generalizability, because it provides the option to reach a very diverse respondent sample. Moreover, the random assignment of participants ensures consistency and reduces biases, maintaining the integrity of the experimental conditions (Field, 2018).

Participants who did the experiment were randomly assigned to one of three conditions (see appendix B): ambivalence, negative or neutral. Each condition had a different scenario describing a specific hypothetical situation. After exposure to the assigned condition and scenario, participants were asked to complete a survey, which measured their coping strategies, demographic variables, tolerance for ambiguity and other individual differences¹.

A manipulation, realism and attention check (see appendix B) took place after filling in the questionnaire. The manipulation check verified if the intended manipulation was effectively induced as planned. To check if respondents found the scenarios they were assigned to realistic, the realism check was created. The attention check assessed if participants paid sufficient attention during the experiment. Participants who failed this check were excluded from the final analysis to maintain validity. These manipulation checks are particularly useful when the independent variable reflects an internal state like tension or in this case ambivalence (Hauser et al., 2018). A manipulation check with five questions that directly reports the targeted emotional state was employed, utilizing a 7-point Likert scale (Hauser et al., 2018).

¹ Other additional moderators were included in the experiment as part of a collaborative research effort conducted jointly with other researchers

Prior to launching the full experiment, a small-scale pilot experiment was conducted with a limited group of 61 respondents to ensure that the designed scenarios were realistic and functioned as intended by checking if the manipulation, attention and realism check were filled in as expected. After filtering for valid responses, 34 valid cases were analysed. A one-way ANOVA (see Appendix B) was conducted to examine if the three experimental scenarios caused different levels of ambivalence. The results showed no significant differences in ambivalence scores between the groups, $F(2, 32) = 0.12, p = .988$, indicating that the ambivalence manipulation was not effective. Another one-way ANOVA (see Appendix B) tested the levels of perceived negative feelings across scenarios. This was also non-significant, $F(2, 32) = 1.844, p = .175$. Based on this feedback from this pilot, small adjustments were made to the scenarios, with special attention to the ambivalent experience scenario, in order to improve clarity and engagement.

3.2 Participation and Sampling

Participants were recruited via social media platforms and personal networks. The participants were asked to do the experiment independently. To be eligible for the experiment, respondents were required to be 18 years or older and have prior experience with wearable devices (e.g. smartwatches, fitness trackers, smart rings) and mHealth applications. When this was not the case, automatic exclusion from the experiment was implemented. The experiment was online from May 11th 2025 until May 20th 2025 and 383 people participated in the experiment. Of these 383 people, 226 were excluded due to ineligibility or failed attention checks, which resulted in 157 valid cases. The randomization of the conditions was automated via Qualtrics.

3.3 Experimental Scenarios and Measures

3.3.1 Manipulation of Ambivalence

Ambivalence is manipulated through a scenario approach, where participants are randomly exposed to either ambivalence or non-ambivalence (purely negative or neutral). The scenario presents a hypothetical situation where participants are instructed to imagine themselves using a mHealth application that delivers health-related insights and feedback to them. In the ambivalent condition,

both positive (e.g. motivated and excited) and negative (e.g. demotivation and burden) aspects of wearable use was highlighted in detail. For the negative non-ambivalent state, the focus was on only the negative aspects. However, for the neutral non-ambivalent condition, a different scenario was shown which is neither positive nor negative.

3.3.2 Measurement of Coping Behaviour

Coping was measured using the confrontative and avoidance scales via items from other research (Carver, 1997; Carver et al., 1989; Duhachek, 2005; Marakhimov & Joo, 2017), which were adjusted to fit the specific scenarios (see Appendix A). Nine items were made based on unpublished research from Radboud University MSc theses from previous years. Each coping response was measured through a series of statements on a 7-point Likert scale (from 1 = 'strongly disagree' until 7 = 'strongly agree'). For example, one item assessing confrontative coping was: *'I would adjust the step goal to make it more realistic for my daily routine'*. A 7-point scale was selected over a 5-point Likert scale for several reasons. First, the greater range of response options allows for more precise measurement of subtle differences in the attitude of the participants (Preston & Colman, 2000). Additionally, the measurement reliability will be increased and variability will be greater in the collected data (Preston & Colman, 2000). Response options such as 'I don't know' or 'not applicable to me' were deliberately excluded, as such vague responses can reduce data quality (Krosnick et al., 2001).

3.3.3 Measurement of Tolerance for Ambiguity

Tolerance for ambiguity was assessed using the four-item scale from Hazen et al. (2012), which was translated into Dutch for the purpose of this study (see Appendix A). An example item is: *'I generally prefer novelty to familiarity'*. The original validation reported a variance explained of 58% and a Cronbach's alpha of .76, indicating an acceptable level of reliability and explanatory power. A 7-point Likert scale (from 1 = 'strongly disagree' until 7 = 'strongly agree') was utilized for this scale, as the original source implemented this as well.

3.3.4 Demographics

Multiple demographic variables were collected, including participants' age (in pre-defined, evenly sized groups), gender identity and duration of the use of mHealth (measured in categories ranging from '0-1 years' to '5+ years'). Respondents will also be asked to indicate what kinds of mHealth apps or wearables they use. A checklist was provided with options like Fitbit, Apple Health, Google Fit, Samsung Health among others.

3.4 Procedure

The experiment was conducted online via the application Qualtrics. After providing informed consent (see subchapter 3.7 and appendix B), participants proceeded through the steps of the experiment. First, screening questions were used to ensure eligibility based on age and wearable experience. Next, participants were randomly assigned to one of the three conditions and will read the scenarios given. Participants were subsequently asked to complete the coping strategies questions, followed by the items for measuring tolerance for ambiguity. Then, a manipulation, realism and attention check was conducted to assess if the manipulation went according to plan. Finally, demographic questions were presented before debriefing the participants about the true purpose of the experiment and giving them a chance to ask questions before thanking them for their time and effort.

3.5 Data Analysis

The data was statistically analysed using IBM SPSS Statistics. Before starting the main analysis, the dataset was prepared and cleaned. All incomplete responses, respondents who did not pass the attention check, respondents who have never used anything related to mHealth and people below 18 years of age were excluded from the analysis. Since the amount of removed data was substantial, being forced to remove more than 200 respondents, two different datasets were created. One with only the respondents who passed the attention check perfectly (AC1, N=137) and one with those respondents as well as the respondents who nearly answered the attention check correctly (AC2, N=157). Nearly correct answers contains answers that were broadly accurate but lacked sufficient detail. A total respondent size of at least 150 is desirable, as also smaller effects can be noticed here

with three different scenario groups (Field, 2018; Hair et al., 2019). Since one group was above that desired amount and one below, comparison between these two datasets may also give some insights.

In the AC1 dataset, 36 respondents were assigned to the ambivalence condition, 55 to the negative experience scenario and 46 had the neutral scenario. For the AC2 dataset, 44 respondents had the ambivalence condition, 61 the negative experience scenario and 52 the neutral scenario. Both datasets were analysed and compared for significant differences. The biggest dataset (N=157) was reported as the primary dataset and the other dataset (N=137) only when there are significant differences that arise. This approach is justified because group sizes for AC2 are more equal and the dataset has more power because of the higher amount.

3.6 Reliability and Validity

To ensure the robustness of the measured scales and items, the reliability and validity were tested. This subchapter discusses the reliability and validity of the scales for confrontative coping and avoidance coping. Although the TFA scale has been validated in previous research, a factor analysis was conducted and the Cronbach's alpha was assessed, as the scale was translated to Dutch for this study.

3.6.1 Reliability

The reliability was assessed via the Cronbach's alpha for the dependent variable and the moderator. A Cronbach's alpha value of .70 or higher is generally considered acceptable to test reliability (Hair et al., 2019). The Cronbach's alpha value for TFA is .811 (see Appendix B), which indicates that this scale is acceptable and thus confirms that it was already validated. For the confrontative coping and avoidance coping scale the values were respectively .778 and .862 without altering the scales or deleting any items. The Cronbach's alpha could only get higher for avoidance coping if item 2 ("I would try to relativize the message, to make it seem more positive") would be deleted and for confrontative coping if item 9 ("I would try to keep my feelings from controlling what I do at that moment") would be deleted. Since the values are acceptable, there is no reason to delete these items yet.

3.6.2 Validity

The items for both confrontative and avoidance coping were either created or adjusted from existing items, as well as translated to Dutch, and for those reasons a factor analysis was conducted. To assess the validity in a comprehensive way, Principal Component Analysis with Varimax rotation was used. The KMO-value (see Appendix B) of all 14 items was .825, which indicates sufficient sampling adequacy. Bartlett's test scored significant, $\chi^2(91) = 1,069.12$, $p < .001$, making the data suitable for factor analysis.

Communalities (see Appendix B) were tested for both types of coping. Extraction values need to be higher than .40 and preferably closer to 1 (Hair et al., 2019). For both avoidance coping item 2 and confrontative coping item 9 this is not the case, providing another reason to remove them. Against expectation, three components emerged with an eigenvalue higher than 1. Deleting the problematic items could solve this problem. The first two components cumulatively explain 53.92% of the total variance, representing an acceptable amount. The Rotated Component Matrix (see Appendix B) indicates more evidence for problematic items. Item 2 and item 9 both load low on their factor and are cross-loaders. Item 8 scores relatively high on factor 1 (-.496) and high on factor 2 (.595). This can imply that the more people endorse this item, the less they tend to use avoidance coping behaviour, while simultaneously showing more eagerness to use confrontative coping, which makes theoretical sense. Conceptually, item 8 ("I would concentrate my efforts on doing something about the situation") clearly reflects the meaning of confrontative coping. While it violates the idea that factors should only load strongly on one factor, this item could reflect a meaningful inverse relationship. Also, removing item 8 would decrease the reliability of the scale for confrontative coping. Therefore, despite the cross-loading, item 8 was retained due to its conceptual relevance in the confrontative coping scale.

Even though the TFA scale was validated, it was translated into Dutch for the experiment. For this reason, a factor analysis was conducted to assess the construct's validity. The KMO-value was .801, indicating good sampling adequacy (Field, 2018). Bartlett's test was significant, $\chi^2(6) = 194.80$, $p < .001$, confirming that the correlation matrix was suitable for a factor analysis. Principal Component Analysis revealed a single factor with an eigenvalue greater than 1 and that explains 63.91% of the total variance. All four items had high factor loadings, ranging from .780 to .815, with communalities

that were all above .60. These results confirm that translating the TFA scale into Dutch still resulted in a valid construct.

All negative information regarding item 2 and item 9 result in deleting both items from the dataset. Item 2 and item 9 appeared to load low on both primary factors and showed a high loading on another factor that was theoretically unexpected. After deletion, both the KMO- and Bartlett's test value barely changed. The eigenvalue of the third component drops to 1.044 and the total explained variance by the first two factors increases to 59.12%.

3.7 Research Ethics

Participants were provided with transparent information regarding the study's intentions through an informed consent form prior to the start of the experiment. Additionally, participants were informed of their right to voluntary participation, including the possibility to withdraw from the experiment at any point without consequences and the ability to ask questions before consenting and starting the experiment. Given the experimental manipulation that was embedded in the study, participants were fully debriefed at the end of the experiment, with special attention paid to clarifying the purpose of the manipulation and the experiment in general. Data confidentiality and anonymity were ensured through the exclusion of personal data (e.g. IP addresses, email addresses etc.). Also, access to the data was restricted to solely the authorized researchers and the data was stored securely for a limited period of time. Finally, the experiment was designed in a way to ensure that no harm was posed to the participants throughout their involvement in the study.

4 Results

4.1 Descriptive Statistics

In the dataset ($N = 157$), the most common age group was 24-29 years, making up 38.9% of the total respondents, followed by the age group 18-23 years with 26.1%. The most common duration of mHealth use was 2-3 years, which accounted for 19.1% of all participants, closely followed by 3-4 years of duration of mHealth use with 18.5%. The distribution of gender was relatively balanced between male (46.5%) and female (53.5%) respondents. In terms of the type of mHealth applications used, the most frequently reported tool was Apple Health (52.9%), followed by Strava (33.1%) and Samsung Health (24.8%). Less commonly used applications included Garmin Connect (13.4%), MyFitnessPal (12.1%) and Fitbit (8.3%). Additionally, 7.6% of the respondents indicated that they use other types of mHealth applications.

Before testing the manipulation check and hypotheses, descriptive statistics (see table 1) were calculated for the main variables: confrontative coping, avoidance coping and TFA. There were no significant differences observed between AC1 and AC2 for these statistics. Each variable is measured via a 7-point Likert scale (from 1= 'strongly disagree' until 7 = 'strongly agree').

Variable	Mean	Standard Deviation	Skewness	Kurtosis
Confrontative coping	3.98	1.27	0.01	-0.32
Avoidance coping	2.95	1.44	1.12	0.74
TFA	4.27	1.18	-0.33	-0.34

Table 1: Descriptive statistics AC2 ($N = 157$)

The table shows an average for confrontative coping of $M = 3.98$ ($SD = 1.27$), suggesting that there is a moderate predisposition to actively deal with the notification. The mean for avoidance coping is slightly lower, $M = 2.95$ ($SD = 1.44$), indicating a relatively lower tendency to avoid the situation. The participants showed a relatively high level of comfort with ambiguous situations, according to the mean for TFA $M = 4.27$ ($SD = 1.18$). Confrontative coping and TFA both showed acceptable symmetry according to the skewness, indicating an even distribution around the mean. In

contrast, avoidance coping showed a moderate level of skewness, suggesting the presence of a long tail and a small group of participants with high avoidance coping scores. Nevertheless, all kurtosis values fall between acceptable thresholds (± 1) for all variables (Hair et al., 2019).

To assess if the random assignment to experimental scenarios resulted in comparable groups, chi-square tests were executed to examine if there are potential differences in participants' demographic characteristics, such as duration of mHealth use, gender and age. The chi-square test for the duration of mHealth use revealed no significant association between the scenario participants were assigned to and their duration of use, $\chi^2(10, N = 157) = 10.79, p = .374$. Although a few cells had an expected count slightly below 5, it was still acceptable according to chi-square test assumptions (Field, 2018). Similarly, gender was not significantly related to the different scenarios, $\chi^2(2, N = 157) = 1.43, p = .489$. All expected cell counts were above 5. There was also no significance detected for the age groups, $\chi^2(16, N = 157) = 14.84, p = .537$. However, this test showed other difficulties as a high number of cells (74.1%) had an expected count less than 5. Although the chi-square was non-significant, caution should be exercised in interpreting the results about age (Field, 2018).

These demographic variables also function as control variables in the regression analysis. Including them as control variables allows for the isolation of the effects of the main variables and more accurate estimation of the relationship between ambivalent experiences, coping and TFA by taking individual differences into account that might influence the dependent variable.

4.2 Manipulation and Realism Check

To assess the effectiveness of the scenario-based manipulation, one-way ANOVA's were conducted on the manipulation check scores, followed by fitting post hoc tests. These analyses allowed for determining if participants experienced significantly different levels of ambivalent experiences based on their randomly assigned scenario: ambivalence, negative or neutral. But before running the one-way ANOVA, assumptions were checked. This included the normality of residuals, homogeneity of variances and independence of observations (Emerson, 2022; Field, 2018). The histograms of the residuals (see Appendix B) showed that the normality for the ambivalence condition is confirmed. The distribution of the residuals (see Appendix B) for the negative scenario showed

more irregularity, but since no extreme skewness or outliers were observed the assumption can be accepted. The homogeneity of variances was evaluated using Levene's test. Results showed that the ambivalent experience manipulation check was non-significant, $F(2, 154) = 2.030, p = .135$, indicating equal variances across the different scenarios. Therefore, the Tukey post hoc test was the most appropriate for follow-up analysis. Since participants were randomly assigned to one of three scenarios, independence of observations was maintained.

A one-way ANOVA was conducted in order to assess whether the manipulation scenarios led to significant differences in the level of ambivalent feelings of the participants. The results showed no significant effect of the manipulation on ambivalent experience scores, which were the manipulation check questions related to ambivalence (see Appendix A), $F(2, 154) = 1.68, p = .191$. The Tukey post hoc test confirmed this, showing that the mean differences between conditions were small and non-significant: neutral versus negative ($M = -0.44, p = .288$), neutral versus ambivalence ($M = -0.52, p = .229$) and negative versus ambivalence ($M = -0.08, p = .963$).

Levene's test was significant for the negative manipulation check, $F(2, 154) = 19.765, p < .001$, violating the homogeneity assumption and making Games-Howell the fitting post hoc test. Because the assumption of equal variances is violated, a Welch ANOVA was conducted, $F(2, 98.59) = 11.89, p < .001$. This result indicates that the differences in negative emotions between the different scenarios was much larger than would be expected by random variation. Games-Howell post hoc test showed that the negative scenario led to significantly higher negative experience scores than both the neutral ($M = 1.50, p < .001$) and the ambivalence condition ($M = 1.22, p = .001$). No significant difference was found between the neutral and ambivalence conditions ($M = 0.28, p = .538$). Overall, while the experimental design and procedure adhered to all necessary demands and standards, only the negative scenario produced the expected manipulation effect. In contrast, the ambivalence manipulation was not successful, as it did not result in a distinguishable level of ambivalent feelings. This reduces the ability to draw conclusions from effects associated with that condition and complicates the interpretation.

In addition to the manipulation check, a realism check was conducted to determine if the participants found the experimental situation believable and realistic. A one-sample t-test (see

Appendix B) compared the realism check data to a neutral midpoint of 4. According to the result, the respondents found the situation significantly realistic ($M = 5.47$, $SD = 1.24$), $t(156) = 14.89$, $p < .001$, $d = 1.19$. These findings confirmed that the hypothetical situation was easy to imagine, despite the manipulation not producing the intended effect. To assess if the perceived realism of the scenarios differed across the three different scenarios, another one-way ANOVA was conducted. The results showed no significant differences in the realism check scores between groups, $F(2, 154) = 0.396$, $p = .674$. The Levene's test confirmed that the assumptions of equal variances across the different scenarios were met ($p = .071$). This proves that the realism of the scenarios was perceived similarly across all three experimental scenarios.

4.3 Hypotheses Testing

In order to test the hypotheses, two separate multiple regression analyses were conducted using three blocks, in line with hierarchical regression procedures (Hair et al., 2019), allowing for the stepwise inclusion of all predictors and the moderator to assess all necessary information. The first with control variables (age, gender and duration of mHealth use), the second with the dummies for the different conditions plus the standardised value of the mean of TFA and the third with the interaction terms to test for moderation. The ambivalent experience scenario was used as the reference category and male was the reference group for gender. In addition, a follow-up regression was conducted for the clearer interpretation of the neutral versus the negative scenario.

4.3.1 Assumptions

Before interpreting the results of the multiple regression analyses, the associated assumptions were checked (Field, 2018; Hair et al., 2019). Linearity was assumed in the relationship between the independent variables ambivalence and TFA and the dependent variable (Qahri-Saremi & Turel, 2020; Rothman et al., 2017; Sung et al., 2017). There were also no clear patterns in the scatterplot of the residuals for confrontative coping (see Appendix B). Thus, the assumption of homoscedasticity was also met in this case. However, the avoidance coping residuals were mildly clustered at the left side (see Appendix B), indicating heteroscedasticity. Caution was required when looking at the avoidance coping results, as heteroscedasticity can affect the reliability of the standard errors, also making p-

values less trustworthy (Field, 2018). However, since the violation was not too extreme and the sample size ($N = 157$) was sufficient, the results remain interpretable in general. Looking at the histogram of the residuals (see Appendix B), the residuals were also confirmed to be approximately normally distributed for both forms of coping. All VIF-values remained below 10 and above 0.2 (e.g., lowest tolerance = 0.350, highest VIF ≈ 2.85), indicating that the multicollinearity was limited and within acceptable bounds (Field, 2018). The Durbin-Watson statistic was respectively 1.796 and 1.955 in confrontative and avoidance coping, supporting the assumption of independent errors, since a value close to 2 is ideal (Field, 2018).

4.3.2 Multiple regression

4.3.2.1 Confrontative Coping

A summary of the data is shown in table 2. In model 1 only 7.8% of the variance ($R^2 = .078$) is explained. Age was a significant negative predictor ($B = -0.118, p = .015$), indicating that younger participants used more confrontative coping. However, note that the distribution of age groups across the different experimental scenarios proved to be less than ideal, as this result may reflect underlying group imbalance rather than a genuine predictive influence. Gender also had a significant effect ($B = 0.434, p = .033$), suggesting that women scored higher on confrontative coping. Duration of use, however, was not a significant predictor ($B = -0.016, p = .797$), which indicates that the duration of use of mHealth apps did not meaningfully influence confrontative coping behaviour.

Model 2 improved the R^2 to .24, increasing the total variance explained to 24%. The effect of the dummy variables for both the negative ($B = -0.291, p = .208$) and neutral ($B = -0.363, p = .123$) condition were not significant, meaning that the use of confrontative coping strategies did not significantly differ between the ambivalence and negative experience condition. Tolerance for ambiguity, however, proved to be a significant positive predictor ($B = 0.483, p < .001$), indicating that participants with higher tolerance for ambiguity were more prone to engage in confrontative coping strategies, regardless of the scenarios.

The interaction terms in model 3 TFA x negative ($B = -0.069, p = .775$) and TFA x neutral ($B = -0.121, p = .623$) were non-significant, indicating that TFA did not interact with the different

scenarios. Thus, the increase in R^2 was negligible and the value remained low. As noted in 4.3.1, there were no issues concerning multicollinearity, based on acceptable VIF-values.

Hypothesis 1a stated: Ambivalence experiences with wearable technology result in higher levels of confrontative coping compared to negative or neutral experiences. This was not supported according to the results. Respondents in both non-ambivalence scenarios did not differ significantly from those in the ambivalent experience in terms of the use of confrontative coping. However, it is important to note that the manipulation was not successful, limiting the strength of this conclusion.

Hypothesis 2 stated: Tolerance for ambiguity is expected to moderate the relationship between experience with mHealth (ambivalence, negative or neutral) and the use of confrontative coping behaviour, such that the effect of ambivalent experiences on confrontative coping will be stronger among users with higher levels of tolerance for ambiguity. This hypothesis was not supported either. While TFA was a strong predictor, no significant moderation effect was found. Section 4.3.2.2 will present the results for hypothesis 1b about avoidance coping.

To directly compare the neutral and negative scenarios, an additional regression (see Appendix B) was conducted with the neutral scenario as reference category. All assumptions were checked and deemed acceptable (see Appendix B). There was no significant difference, $B = -0.282$, $p = .228$, indicating that participants in the negative condition did not have significantly different confrontative coping levels compared to the participants in the neutral scenario. TFA remained a significant overall predictor of confrontative coping ($B = 0.483$, $p < .001$), indicating that individuals with higher TFA generally engage more in confrontative coping, regardless of the scenario.

	Confrontative coping			
	<i>B</i>	<i>SE</i>	β	<i>p</i>
Model 1				
Age	-0.118	.048	-0.195	.015
Gender	0.434	.202	0.170	.033
Duration of use	-0.016	.061	-0.020	.797
R ² (Adjusted)		.078 (.060)		
Model 2				
Age	-0.100	.044	-0.165	.026
Gender	0.502	.186	0.197	.008
Duration of use	-0.038	.057	-0.049	.500
Ambivalence vs negative	-0.291	.230	-0.112	.208
Ambivalence vs neutral	-0.363	.234	-0.135	.123
TFA	0.483	.137	0.428	< .001
R ² (Adjusted)		.240 (.209)		
Model 3				
Age	-0.101	.047	-0.167	.032
Gender	0.510	.194	0.200	.009
Duration of use	-0.039	.057	-0.049	.500
Ambivalence vs negative	-0.282	.233	-0.108	.228
Ambivalence vs neutral	-0.343	.239	-0.127	.154
TFA	0.546	.174	0.428	.002
TFA x negative	-0.069	.241	-0.035	.775
TFA x neutral	-0.121	.245	-0.049	.623
R ² (Adjusted)		.241 (.200)		

Table 2: Multiple regression confrontative coping, $N = 157$

4.3.2.2 Avoidance Coping

A separate multiple regression analysis (see table 3) was conducted with avoidance coping as the dependent variable. Model 1 explains 9.2% of the variance and only one of the three control variables scored significant here. Age was a significant predictor ($B = 0.209$, $p = < .001$), indicating that older participants reported higher levels of avoidance coping.

Model 2 saw a substantial improvement in R^2 , increasing the total variance explained to 44%,

suggesting that these variables contribute much to predicting avoidance coping. The dummy variable for the negative scenario was a strong predictor ($B = 0.810, p < .001$), indicating that participants in the negative experience scenario used more avoidance coping than those in the ambivalent experience scenario. The neutral dummy was non-significant ($B = 0.167, p = .463$). TFA was a strong negative predictor ($B = -0.704, p < .001$), meaning that a higher tolerance for ambiguity resulted in lower levels of avoidance coping.

In model 3, the interaction term with the neutral scenario was not significant ($B = 0.238, p = .281$). However, the interaction term with the negative scenario was negatively significant ($B = -0.795, p < .001$), indicating that TFA negatively moderates the relationship between the negative scenario and avoidance coping. Specifically, for the participants in the negative scenario, a higher level of tolerance for ambiguity reduces the tendency to use avoidance coping. The total variance explained in model 3 changed to 52.1%, representing an acceptable percentage and the best overall fit.

Hypothesis 1b stated: Ambivalent experiences with wearable technology do not result in significant differences in levels of avoidance coping compared to negative or neutral experiences. This hypothesis was also not supported, since the results indicated that there are significant differences between the ambivalent and negative conditions.

In another follow-up regression (see Appendix B) using the neutral scenario as reference, the negative condition showed a significantly higher level of avoidance coping, $B = 0.725, p < .001$. All assumptions were evaluated and accepted (see Appendix B). This suggests that respondents were more inclined to use avoidance coping behaviour when exposed to a negatively framed scenario than a neutral one. Regardless of the scenario, participants with a high level of TFA had lower levels of avoidance coping ($B = -0.444, p < .001$).

Avoidance coping				
	<i>B</i>	<i>SE</i>	β	<i>p</i>
Model 1				
Age	0.209	.054	0.306	< .001
Gender	0.121	.226	0.042	.594
Duration of use	-0.070	.069	-0.080	.308
R ² (Adjusted)		.092 (.074)		
Model 2				
Age	0.170	.043	0.249	<.001
Gender	0.069	.181	0.024	.702
Duration of use	-0.034	.055	-0.039	.531
Ambivalence vs negative	0.810	.223	0.275	< .001
Ambivalence vs neutral	0.167	.227	0.055	.463
TFA	-0.704	.091	-0.488	< .001
R ² (Adjusted)		.440 (.418)		
Model 3				
Age	0.111	.042	0.162	.009
Gender	0.266	.174	0.092	.128
Duration of use	-0.047	.051	-0.054	.355
Ambivalence vs negative	0.725	.209	0.246	<.001
Ambivalence vs neutral	0.092	.215	0.030	.668
TFA	-0.444	.156	-0.308	.005
TFA x negative	-0.795	.217	-0.352	< .001
TFA x neutral	0.238	.220	0.086	.281
R ² (Adjusted)		.521 (.495)		

Table 3: Multiple regression avoidance coping, N = 157

¹ *Results based on a separate follow-up regression*

5 Discussion

5.1 Conclusion

Wearable mHealth technologies have become increasingly popular for their ability to motivate and actively engage healthy behaviours through personalized feedback. However, they often produce conflicting emotional feelings, as users may feel simultaneously empowered and pressured, leading to psychological tension and ambivalence. These ambivalent experiences cause users to engage in coping strategies, such as confrontative coping (active problem-solving behaviour) or avoidance coping (disengagement). Previous research suggested that ambivalent feelings can lead to confrontative coping, as users attempt to resolve their conflicting feelings. This study aimed to examine if ambivalent experiences increased the use of confrontative coping strategies more than negative or neutral experiences and if this relationship was moderated by tolerance for ambiguity, which refers to how capable people are with handling ambiguous situations. At the same time, it was expected that ambivalent feelings would not affect avoidance coping more than neutral or negative experiences.

The hypotheses were tested via an online experiment with a between subjects design with three conditions (ambivalent, negative or neutral experience), where ambivalent feelings were attempted to be manipulated alongside other non-ambivalence states, namely neutral and negative. The failure of the ambivalence manipulation is a fundamental limitation for the interpretation of the results. As a result, the intended contrast between ambivalence and the two non-ambivalence states was not established, undermining experimental control and the ability to test the hypotheses. This weakens the validity of any causal claims regarding the ambivalent experience condition's effect on coping, particularly given that successful manipulation is essential in experimental research (Hauser et al., 2018).

Despite this, the findings illustrated no significant effect of the ambivalent condition on confrontative coping, nor a significant moderation effect between the ambivalent condition and TFA. Also, significant differences were shown between the ambivalent and negative conditions in terms of avoidance coping. However, TFA independently predicted coping behaviour in general, as participants with higher levels of TFA reported significantly higher scores in confrontative coping and lower scores

in avoidance coping. Respondents in the negative scenario displayed the highest levels of avoidance coping, suggesting that the emotionally unambiguous information may play a critical role in disengaging than ambivalence itself. TFA was also a significant moderator in the negative scenario, indicating that higher TFA resulted in fewer people implementing avoidance coping.

Age and gender also significantly influenced coping behaviour. Younger participants more often engaged in confrontative coping and women often reported higher levels of confrontative coping. In addition, older participants reported significantly higher avoidance coping across conditions. Although not hypothesized, exploratory analyses (see Appendix B) were conducted to examine if age and gender also moderated the relationship between condition and coping strategy. These analyses were not reported in Chapter 4 because they were not part of the pre-registered analysis plan. However, both age and gender were revealed to be moderators when comparing the negative experience scenario to the ambivalent experience scenario. Older participants showed significantly lower confrontative and higher avoidance coping in the negative experience scenario, while female respondents reported higher confrontative coping than males in this condition compared to the ambivalent condition. Given the exploratory nature, the results are interpreted with caution. No other effects were observed in other condition comparisons.

Interestingly, the duration of mHealth technology use did not emerge as a significant predictor of either confrontative or avoidance coping. This variable was included as a control variable and no significant effect was found.

5.2 Theoretical Contribution

Given the failure to successfully create an ambivalent state in participants, this experimental study could not offer the expected contributions. Without a distinct ambivalent state being created in the experiment, the theoretical hypotheses could not be efficiently tested. Therefore, the absence of significant effects related to the hypotheses should be interpreted with caution, as they are more likely because of issues with the experimental design than because there is no real effect.

Avoidance coping levels were highest in the negative scenario, suggesting that the strongly negative and directive nature of the condition may have led to greater disengagement than emotional

complexity, like ambivalence, or neutral experiences. In the negative scenario, participants received direct, negative context (e.g. ‘forced’, ‘dictates’ and ‘order’), which could have felt definitive and uncontrollable. Such clear and negative framing often tends to result in avoidance coping, as strongly negative experiences have been known to drive disengagement (Gelbrich, 2010). The lack of strong behavioural effects in the ambivalent condition and the observed strong behavioural effects in the negative experience condition, suggest that users may be more reactive to direct negative information.

Tolerance for ambiguity was a strong overall predictor, confirming that individuals with high levels of TFA are more likely to engage in confrontative coping and less likely to use avoidance coping, regardless the situation (Furnham & Ribchester, 1995; Sung et al., 2017). However, against expectation, TFA did not moderate the relationship between ambivalence and confrontative coping. This could be because the ambivalent condition failed to establish strong ambivalent feelings according to the manipulation check, while truly strong perceived ambivalence is necessary for moderating effects to emerge (Rothman et al., 2017; Van Harreveld et al., 2009). In contrast, TFA did moderate the relationship between the negative scenario and avoidance coping. This suggests that TFA not only has effect in ambiguous situations, but also in purely negative ones. While prior research primarily emphasized the function of TFA in ambivalent experiences (Furnham & Ribchester, 1995), this result broadens the existing understanding by showing that TFA can also serve as a buffer against disengagement in situations where negativity is emphasized.

The findings from the data are in line with the argument that confrontative coping is dependent on individual factors, as the analysis concluded that demographic characteristics, specifically age and gender, were significant predictors of confrontative coping. Younger respondents and women were more likely to score high on confrontative coping and older participants were more likely to use avoidance coping, regardless of the scenario they were assigned to. This is in line with literature, which suggests that older wearable tech users often are more uncomfortable with digital feedback, resulting in lower readiness to cope with wearable feedback (Wilson-Nash & Tinson, 2022). Similarly, younger individuals have been shown to more readily engage in proactive behaviour and confrontative coping in the context of mHealth usage (Oba et al., 2023). Also, prior studies have shown that women are more likely to use confrontative coping strategies and males are more likely to disengage (Matud,

2004; Tamres et al., 2002). While the findings about the exploratory analyses regarding the moderating effects of age and gender are interpreted with caution, they suggest that age and gender may play a role in shaping coping responses to different emotional experiences in mHealth contexts.

5.3 Limitations

Several limitations from the research need to be considered. First, the artificial experimental online setting may have influenced the behaviour and engagement of the participants, as they were aware of being part of an online setting, which differs from real-life interaction with mHealth. This could have caused the failure of the ambivalent experience manipulation, however, no clear evidence from the data supports this assumption. A more plausible explanation for the failure of this manipulation could be the scenario design itself. For instance, the ambivalent experience scenario tried to cause tension by describing a moment where the mHealth notification is experienced as both encouraging and controlling. Although, the framing may not have been emotionally strong or distinct enough to create genuine ambivalent feelings among the participants. In particular, the closing sentence of the scenario (*“At this moment, you feel torn between taking control of your life with the help of the app and your life being controlled by the app instead”*) might have come across as too balanced instead of ambivalent. Participants might have interpreted the message as either motivating or as controlling, rather than as a true conflict. Or people might have found this scenario balanced and or emotionally flat and thus felt quite neutral about it instead of having tension and conflict. A neutral experience manipulation check could have provided a better understanding about this issue, as it would have assessed if people in the ambivalent experience scenario actually felt neutral.

Additionally, coping strategies and tolerance for ambiguity were assessed via self-report survey questions, which could be influenced by the social desirability bias (Podsakoff et al., 2003). For example, participants might have overreported confrontative coping behaviour (e.g. ‘adjusting goals’ or ‘making a plan/strategy’) because these responses align better with socially approved traits like proactivity and self-control. Similarly, TFA items (e.g. “I enjoy tackling problems that are complex enough to be ambiguous”) may also have been answered more positively due to the association with being intelligent if you can handle complex problems.

Furthermore, the scenarios for ambivalence were operationalized using a specific scenario involving running while also using a wearable mHealth device. While experimental control was ensured, it may limit generalizability to other mHealth contexts like sleep tracking feedback. Although manipulation, realism and attention checks were included in the experiment, scenario-based manipulations may not perfectly replicate real-life ambivalent feelings toward wearables or mHealth (Bardsley, 2005). This raises the methodological dilemma of hypothetical scenarios: they offer high internal control, but imagined responses may not always reflect real-life behaviour.

Regarding the attention check, the open-ended question proved to be very difficult for respondents, since more than 200 participants needed to be deleted from the dataset because of the attention check. A multiple-choice question with a single correct answer should also have sufficed and would likely have reduced participant deletion, while maintaining a reliable attention check.

Statistical and sample issues further constrain the interpretation of the results. In the residual scatterplot for avoidance coping, heteroscedasticity was observed, indicating that caution is needed when interpreting significance levels. While the total sample size ($N = 157$) is within acceptable bound for regression (Field, 2018; Hair et al., 2019), it is still barely enough and may lack power and generalizability. Additionally, the chi-square test assumptions for age were violated, diminishing the claim that age was evenly distributed across the three different scenarios and suggesting possible age-related biases. Age proved to be a significant predictor, but caution is warranted for interpretation and generalizability because of group size imbalances. Also, other demographic variables (e.g. educational level or attitude toward technology) could have been controlled for, especially because age and gender were significant.

Since the experiment was done in the Netherlands, it may also be not generalizable due to cultural differences. The Dutch people score high on individualism (Hofstede, 2011), suggesting that they value autonomy more and may resist controlling messages. In the context of this experiment, the tone in the negative experience scenario, suggesting a decrease of autonomy due to the mHealth notifications, as intrusive which could cause higher avoidance coping. Additionally, Dutch people score low on uncertainty avoidance (Hofstede, 2011), meaning that they may be more comfortable with ambiguous and uncertain situations than people in other countries. This could influence both TFA

and coping scores in the experiment, as it could possibly reduce the participants' perceived tension.

Finally, this study does not include longitudinal data, as it collected data at a single point in time. Since coping can also be a dynamic process that unfolds over time, it remains unclear whether the coping responses that were observed in this experiment reflect only temporary actions or also more stable behaviour.

5.4 Future Research

Building on the contributions and limitations of this study, several options remain open for future research. Creating a more robust and working manipulation of ambivalence could be something for future research. They should consider using alternative formats (e.g. real-time feedback in lab or field settings) to enhance engagement and realism. Pre-testing the different scenario conditions qualitatively could also provide more insight in how to better create tension among participants. These techniques may better simulate real-world experiences of ambivalence, which can increase the validity of the manipulation.

Researchers could also explore coping as a long-term process rather than a response at one specific moment in time. It is important to recognize that the behavioural consequences of ambivalence do not often manifest immediately after experiencing ambivalence. Coping is a dynamic process that can change or evolve as individuals reflect on emotionally ambiguous situations (Folkman & Moskowitz, 2004). Thus, longitudinal research could offer better insight into how coping strategies can evolve, stabilize or fluctuate when being exposed to an ambivalent mHealth feedback scenario.

In addition, future studies could investigate the conditions under which ambivalent feelings lead to confrontative coping. Although prior research supports a positive link between ambivalent experiences and proactive outcomes such as creative thinking, problem-solving and confrontative coping (Miron-Spektor et al., 2011; Qahri-Saremi & Turel, 2020; Van Harreveld et al., 2009; Wilson-Nash & Tinson, 2022; Wu et al., 2023), these outcomes may be dependent on contextual and individual factors. For instance, such outcomes may only occur when individuals are motivated to integrate opposing ideas and have emotional readiness (Miron-Spektor et al., 2011). Furthermore, the opposite of confrontative coping may even occur, depending on perceived autonomy and control,

emotional regulation capacity and the motivational relevance of the situation (Rothman et al., 2017; Van Harreveld et al., 2009). Future studies could examine how all these contextual and individual factors shape the coping consequences of ambivalent experiences.

Although the manipulation of ambivalence was not successful, the strong behavioural difference between tension (ambivalence) and emotional clarity (purely negative) could be further explored. The high levels of avoidance coping in the negative experience scenario suggest that emotional clarity may have a more immediate influence on coping behaviour than ambivalent feelings. Future research could test perceived emotional clarity as a mediating variable and examine if it explains the relationship between emotional framing and coping behaviour.

The observed effects of age and gender on coping strategies suggest that demographic variables may have a meaningful effect on how users respond to mHealth feedback in different experience conditions, including potential moderating effects as indicated by the additional analyses. Since these results need to be considered with caution, future studies should pre-register these demographic variables and hypotheses and use targeted experimental designs to validate or dismiss these (moderating) effects. Future studies could also recruit a bigger, more balanced and more diverse sample to increase generalizability. Additionally, the positively skewed distribution of avoidance coping points to potential unobserved subgroups, where a larger sample could also uncover these.

Finally, a mixed-methods design, combining experimental control with the depth of qualitative insight, could provide more contextual understanding of coping behaviour with mHealth technology. Open-ended questions in interviews after doing the experiment could provide more insight in how users interpret wearable feedback, what cognitive and emotional dilemmas they experience and how they arrive at their coping behaviour.

5.5 Practical Implications and Recommendations

The negative scenario showed the highest avoidance coping scores. This suggests that apps or information that sounds controlling can lead to disengagement. Developers of mHealth apps could use more supportive, autonomy-enhancing phrasing rather than giving more pressure related feedback to wearable users. Also avoiding success/failure notifications could be better and instead using gradual

progress indicators, since these failure notifications could be perceived as very negative feedback.

Younger users and females reported more confrontative coping, while older users showed more avoidance coping, especially in negative situations. Applications for mHealth aimed at older users, should try to emphasize autonomy and control, offer non-threatening framed goals and information as well as potentially include guidance or coaching to reduce cognitive overload and potential disengagement. Additionally, apps could dynamically adjust how often feedback is sent to users based on their response patterns.

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Appendix A: The Experiment

Pilot study

Welcome to our study!

Participating in this study requires that you have used in the recent past or you are currently using a mobile health app for tracking your physical activity (e.g., steps, running, etc.) Such an app can be a wristband designed for activity tracking (e.g., Fitbit), a smartwatch that, amongst other things, also tracks your physical activity (e.g., an Apple smartwatch), or an app installed on your smartphone, connected or not to a wristband or smartwatch device (e.g., Runtastic).

Have you used in the recent part or are you currently using any type of the above mobile health apps for activity tracking?

- Yes/No

Informed Consent

Before you decide whether you want to proceed with this study, please read the information below about what this study entails:

Aim: This study aims to explore how people experience feedback from their health apps.

Tasks: You will be asked to health app and to answer questions about the situation.

Voluntary participation: You can terminate your participation, at any point in time for any reason. If you have completed the study, you can request your data to be deleted by sending an email to olga.tsoumani@ru.nl

Risks/discomfort: No major risk or discomfort is associated with participating in this study.

Personal information: We ask for demographic information and your experience in health app use. However, we will not use this information (alone or in combination with other data) to identify individual participants. We do not collect any other information that could be privacy-sensitive.

Data storage: We treat your data with confidentiality. They are stored on Radboud University's secure servers, according to the university's protocol, and in line with the General Data Protection Regulation (GDPR). They may be used for other studies and will be stored for a minimum of 10 years to ensure scientific integrity.

Questions/complaints: For questions about the study, please send an email to olga.tsoumani@ru.nl. To file a complaint concerning the protection of personal data, you can send an email to privacy-fm@ru.nl or contact the Dutch Data Protection Authority. For complaints concerning the scientific integrity of the study, you can send an email to vertrouwenspersonen@ru.nl or m.steenbergen@bjz.ru.nl

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I have read the above and I agree to participate in the study as described above.

- Yes/no

Scenario's

1. *Ambivalence*

Imagine the following scenario as vividly as possible:

You are trying to have a healthier lifestyle. In order to achieve this, you have started using an app that tracks your physical activity, such as your daily steps. With the help of this app, you have set a goal for yourself to walk 10.000 steps every day.

It's now Monday evening. You have just finished dinner and are heading for the sofa to relax when you hear your app buzzing. It has been tracking your movements all day and it now tells you that you still need another 2000 steps to reach your daily goal.

At a moment when you had almost forgotten about your daily goal, this message comes both as an incentive and an order to discipline yourself to take these additional steps. Just when you were about to sit down and relax, the message makes you think that it's up to you to change your plans for this evening, but you also can't help but think that you are being forced to do it.

It feels like the app is giving you the power to control your life and health while, at the same time, it also controls your life. On the one hand, you are now in charge of the daily choices that affect your health, but on the other hand, though, the app is also in charge.

2. *Non-ambivalence (purely negative)*

Imagine the following scenario as vividly as possible:

You are trying to have a healthier lifestyle. In order to achieve this, you have started using an app that tracks your physical activity, such as your daily steps. With the help of this app, you have set a goal for yourself to walk 10.000 steps every day.

It's now Monday evening. You have just finished dinner and are heading for the sofa to relax when you hear your app buzzing. It has been tracking your movements all day and it now tells you that you still need another 2000 steps to reach your daily goal.

At a moment when you had almost forgotten about your daily goal, this message comes as an order to discipline yourself to take these additional steps. Just when you are about to sit down and relax, the message forces you to change your plans for this evening. It feels like the app is taking control of your life. It is the app that is now in charge of the daily choices that affect your health.

3. *Non-ambivalence (neutral)*

Imagine the following scenario as vividly as possible:

You are trying to have a healthier lifestyle. In order to achieve this, you have started using an app that tracks your physical activity, such as your daily steps. With the help of this app, you have set a goal for yourself to walk 10.000 steps every day.

It's now Monday evening. You have just finished dinner and are heading for the sofa to relax when you hear your app buzzing. It has been tracking your movements all day and it now tells you that you still need another 2000 steps to reach your daily goal.

You look at your app. It shows the number of steps you have taken in a circle that fills as you take more steps. It also shows you the number of calories burned, and the number of minutes you were engaged in vigorous activity, such as exercising.

Questions manipulation check

To what extent do you agree or disagree with each of the following statements about the app?

1. The app created a feeling of conflict in me.
2. The app gave me contradictory feelings.
3. The app gave me mixed feelings.
4. The app gave me both a positive and a negative feeling.
5. The app gave me a negative feeling.
6. I felt like the app was offering me control over my life.
7. I felt like the app was trying to control my life.
8. I felt like the app was helping me do things I might not otherwise do.
9. I felt like the app was forcing me to do things I did not want to do at that moment.

Strongly disagree; Disagree; Somewhat disagree; Neither agree nor disagree; Somewhat agree; Agree; Strongly agree

Realism check

1. How easy or difficult was it for you to imagine yourself in that situation?

Very difficult; Difficult; Somewhat difficult; Neither easy nor difficult; Somewhat easy; Easy; Very easy

2. How common do you think are such kinds of situations between users and mHealth apps?

Very uncommon; Uncommon; Somewhat uncommon; Neither common nor uncommon; Somewhat common; Common; Very common

Attention check

In the scenario you read, what were you about to do when you heard your app buzzing?

Open-ended response

Demographics

- To which age group do you belong?

- < 18 (exclusion), 18-23 for every 5 years a new choice, until 90+
- What gender identity do you identify with most?
 - Male, Female, Non-binary/third gender, Prefer not to say
- How long have you used/been using activity trackers?
 - 0-1, 1-2, 2-3, 3-4, 4-5, 5+ years
- Which of the following physical activity trackers have you used/are you using?
 - Fitbit
 - Apple Health app
 - Google Fit
 - Samsung Health
 - Strava
 - Garmin Connect
 - MyFitnessPal
 - YAZIO
 - WeightWatchers
 - BetterMe
 - Lose It!
 - Peloton
 - Xiaomi
 - Other, please name it: (14) _____

Dutch version

Welkom bij ons onderzoek!

Om mee te doen aan dit onderzoek is het belangrijk dat je recent een mobiele gezondheidsapp hebt gebruikt of momenteel gebruikt om je fysieke activiteit bij te houden (bijvoorbeeld stappen, hardlopen, enz.). Zo'n app kan een polsbandje zijn dat speciaal is ontworpen voor activiteitsregistratie (bijvoorbeeld Fitbit), een smartwatch die onder andere ook je fysieke activiteit bijhoudt (bijvoorbeeld een Apple Watch), of een app op je smartphone, al dan niet gekoppeld aan een polsbandje of smartwatch (zoals Runtastic).

Heb je recentelijk een van bovenstaande mobiele gezondheidsapps gebruikt of gebruik je er momenteel een voor het bijhouden van je activiteit?

Ja / Nee

Geïnformeerde toestemming

Voordat je beslist of je wilt deelnemen aan dit onderzoek, lees alsjeblieft onderstaande informatie over wat het onderzoek inhoudt:

Doel:

Dit onderzoek heeft als doel om te begrijpen hoe mensen feedback van hun gezondheidsapps ervaren.

Wat wordt er van je gevraagd?

Je wordt gevraagd om een scenario te lezen over een gezondheidsapp en vervolgens vragen te beantwoorden over dit scenario.

Vrijwillige deelname:

Je kunt op elk moment en om welke reden dan ook stoppen met deelname. Als je het onderzoek hebt voltooid, kun je verzoeken om je gegevens te laten verwijderen door een e-mail te sturen naar olga.tsoumani@ru.nl.

Risico's/ongemak:

Er zijn geen grote risico's of vormen van ongemak verbonden aan deelname aan dit onderzoek.

Persoonlijke informatie:

We vragen je om demografische gegevens en naar je ervaring met het gebruik van gezondheidsapps. Deze informatie wordt echter niet gebruikt om individuele deelnemers te identificeren, ook niet in combinatie met andere gegevens. We verzamelen verder geen privacygevoelige informatie.

Opslag van gegevens:

Je gegevens worden vertrouwelijk behandeld en opgeslagen op de beveiligde servers van de Radboud Universiteit, volgens het protocol van de universiteit en in overeenstemming met de Algemene Verordening Gegevensbescherming (AVG). De gegevens kunnen voor andere onderzoeken worden gebruikt en worden minimaal 10 jaar bewaard om de wetenschappelijke integriteit te waarborgen.

Vragen of klachten:

Voor vragen over het onderzoek kun je mailen naar olga.tsoumani@ru.nl.

Voor klachten over de bescherming van persoonsgegevens kun je mailen naar privacy-fm@ru.nl of contact opnemen met de Autoriteit Persoonsgegevens.

Voor klachten over de wetenschappelijke integriteit kun je mailen naar vertrouwenspersonen@ru.nl of m.steenbergen@bjz.ru.nl.

Ons onderzoeksteam: Studenten van de MSc opleiding Marketing:

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Onderzoeksbegeleider:

Olga Tsoumani – olga.tsoumani@ru.nl

Ik heb bovenstaande gelezen en ga akkoord met deelname aan het onderzoek zoals hierboven beschreven.

Ja / Nee

Scenario's

Ambivalence

Probeer je zo goed mogelijk in te leven in het volgende scenario:

Je probeert een gezondere levensstijl aan te nemen. Om je hierbij te helpen gebruik je een app die je fysieke activiteit bijhoudt, zoals je dagelijkse stappen. Met behulp van de app, heb je jezelf als doel gesteld om elke dag 10.000 stappen te zetten.

Het is nu maandagavond. Je hebt net avondeten gehad en bent op weg naar de bank om te ontspannen, wanneer je app begint te trillen. De app heeft je bewegingen de hele dag bijgehouden en geeft nu aan dat je nog 2.000 stappen nodig hebt om je dagelijkse doel te halen.

Op een moment waarbij je bijna je dagelijkse doel was vergeten, voelt dit bericht zowel als een aanmoediging als een bevel om jezelf te disciplineren om die extra stappen te zetten. Net wanneer je wilde gaan zitten en ontspannen, laat dit bericht je nadenken: jij kunt zelf bepalen of je je avondplannen gaat veranderen, maar tegelijk voelt het alsof je ertoe gedwongen wordt.

Het voelt alsof de app je de kracht geeft om je leven en gezondheid in eigen hand te nemen, maar tegelijkertijd ook controle over je leven uitoefent. Aan de ene kant maak jij nu de keuzes die je gezondheid beïnvloeden, maar aan de andere kant lijkt de app ook de regie te hebben.

Non-ambivalence (negatief)

Probeer je zo goed mogelijk in te leven in het volgende scenario:

Je probeert een gezondere levensstijl aan te nemen. Om je hierbij te helpen gebruik je een app die je fysieke activiteit bijhoudt, zoals je dagelijkse stappen. Met behulp van de app, heb je jezelf als doel gesteld om elke dag 10.000 stappen te zetten.

Het is nu maandagavond. Je hebt net avondeten gehad en bent op weg naar de bank om te ontspannen, wanneer je app begint te trillen. De app heeft je bewegingen de hele dag bijgehouden en geeft nu aan dat je nog 2.000 stappen nodig hebt om je dagelijkse doel te halen.

Op een moment waarbij je bijna je dagelijkse doel was vergeten, voelt dit bericht als een bevel om jezelf te disciplineren om die extra stappen te zetten. Net wanneer je wilde gaan zitten en ontspannen, dwingt het bericht je om je avondplannen te wijzigen. Het voelt alsof de app de controle over je leven overneemt. De app bepaalt nu welke keuzes je maakt die je gezondheid beïnvloeden.

Non-ambivalence (neutraal)

Probeer je zo goed mogelijk in te leven in het volgende scenario:

Je probeert een gezondere levensstijl aan te nemen. Om je hierbij te helpen gebruik je een app die je fysieke activiteit bijhoudt, zoals je dagelijkse stappen. Met behulp van de app, heb je jezelf als doel gesteld om elke dag 10.000 stappen te zetten.

Het is nu maandagavond. Je hebt net avondeten gehad en bent op weg naar de bank om te ontspannen, wanneer je app begint te trillen. De app heeft je bewegingen de hele dag bijgehouden en geeft nu aan dat je nog 2.000 stappen nodig hebt om je dagelijkse doel te halen.

Je kijkt naar je app. Die toont het aantal stappen dat je hebt gezet in een cirkel die zich vult naarmate je meer loopt. Ook laat de app het aantal verbrande calorieën zien en het aantal minuten dat je intensief actief bent geweest, bijvoorbeeld door te sporten.

Vragen – Manipulatiecheck

In hoeverre ben je het eens of oneens met de volgende uitspraken over de app?

- De app zorgde voor een gevoel van innerlijk conflict.
- De app gaf mij tegenstrijdige gevoelens.
- De app gaf mij gemengde gevoelens.
- De app gaf mij zowel een positief als een negatief gevoel.
- De app gaf mij een negatief gevoel.
- Ik had het gevoel dat de app mij controle gaf over mijn leven.
- Ik had het gevoel dat de app mijn leven probeerde te controleren.
- Ik had het gevoel dat de app mij hielp dingen te doen die ik anders misschien niet zou doen.
- Ik had het gevoel dat de app mij dwong dingen te doen die ik op dat moment niet wilde doen.

Antwoordopties:

Helemaal oneens – Oneens – Enigszins oneens – Neutraal – Enigszins eens – Eens – Helemaal eens

Realiteitscheck

Hoe makkelijk of moeilijk was het om jezelf in deze situatie in te beelden?

Zeer moeilijk – Moeilijk – Enigszins moeilijk – Noch makkelijk noch moeilijk – Enigszins makkelijk – Makkelijk – Zeer makkelijk

Hoe vaak denk je dat dit soort situaties voorkomen bij gebruikers van mHealth-apps?

Zeer zeldzaam – Zeldzaam – Enigszins zeldzaam – Noch zeldzaam noch vaak – Enigszins vaak – Vaak – Zeer vaak

Aandachtscheck

Wat was je van plan te gaan doen toen je je app hoorde trillen in het scenario dat je hebt gelezen?
(Open antwoord)

Demografische gegevens

Tot welke leeftijdsgroep behoor je?

<18 (exclusie), 18–23, 24–29, 30–35 ... (in stappen van 5 jaar tot 90+)

Met welke genderidentiteit identificeer je je het meest?

Man, Vrouw, Non-binair/derde gender, Wil ik liever niet zeggen

Hoelang gebruik je al mobiele gezondheidsapps?

0–1 jaar, 1–2 jaar, 2–3 jaar, 3–4 jaar, 4–5 jaar, 5+ jaar

Welke van de volgende mobiele gezondheidsapps heb je gebruikt of gebruik je nog steeds?

- Fitbit
- Apple Gezondheid
- Google Fit

- Samsung Health
- Strava
- Garmin Connect
- MyFitnessPal
- YAZIO
- WeightWatchers
- BetterMe
- Lose It!
- Peloton
- Xiaomi
- Anders, namelijk: (open antwoord)

Main study

Welcome to our study!

Participating in this study requires that you have used in the recent past or you are currently using a mobile health app for tracking your physical activity (e.g., steps, running, etc.) Such an app can be a wristband/smartwatch designed for activity tracking (e.g., Fitbit or Apple Watch). It can also be an app on your smartphone (e.g. Samsung Health or Apple Health), which then tracks your activity.

By “using”, we do not mean that you need to use the app daily or intensively. Even if you only check the app occasionally, for instance, to see how many steps you have taken, that also counts.

Have you used in the recent part or are you currently using any type of the above mobile health apps for activity tracking?

- Yes/No

Informed Consent

Before you decide whether you want to proceed with this study, please read the information below about what this study entails:

Aim: This study aims to explore how people experience feedback from their health apps.

Tasks: You will be asked to imagine that you receive feedback from your health app and to answer questions about the situation.

Voluntary participation: You can terminate your participation, at any point in time for any reason. If you have completed the study, you can request your data to be deleted by sending an email to olga.tsoumani@ru.nl

Risks/discomfort: No major risk or discomfort is associated with participating in this study.

Personal information: We ask for demographic information and your experience in health app use. However, we will not use this information (alone or in combination with other data) to identify individual participants. We do not collect any other information that could be privacy-sensitive.

Data storage: We treat your data with confidentiality. They are stored on Radboud University's secure servers, according to the university's protocol, and in line with the General Data Protection Regulation (GDPR). They may be used for other studies and will be stored for a minimum of 10 years to ensure scientific integrity.

Questions/complaints: For questions about the study, please contact any member of our research team (see details below). You are also welcome to contact the supervisor if you prefer.

Our research team: Students in MSc program Marketing:

Ameryl Juliaans – ameryl.juliaans@ru.nl

Luuk Kessels – luuk.kessels@ru.nl

Simone Kroon – simone.kroon@ru.nl

Jasmijn van Kuijk – jasmijn.vankuijk@ru.nl

Joppe Wijnberger – joppe.wijnberger@ru.nl

Research project supervisor: Olga Tsoumani – olga.tsoumani@ru.nl

I have read the above and I agree to participate in the study as described above.

- Yes/no

Scenario's

1. *Ambivalence*

Imagine the following scenario as vividly as possible:

You are trying to have a healthier lifestyle. In order to achieve this, you have started using an app that tracks your physical activity, such as your daily steps. With the help of this app, you have set a goal for yourself to walk 10.000 steps every day.

It's now Monday evening. You have just finished dinner and are heading for the sofa to relax when you hear your app buzzing. It has been tracking your movements all day and it now tells you that you still need another 1000 steps to reach your daily goal.

At a moment when you had almost forgotten about your daily step goal, this message comes both as an incentive and an order from the app to take those extra steps. Just when you were about to sit down and relax, this message encourages you to take those extra steps. It makes you think that it is up to you to change your behavior. At the same time, though, it dictates you to take those additional steps. You can't help but think that you are being forced to act in a certain way. At this moment, you feel torn between taking control of your life with the help of the app and your life being controlled by the app instead.

2. *Non-ambivalence (purely negative)*

Imagine the following scenario as vividly as possible:

You are trying to have a healthier lifestyle. In order to achieve this, you have started using an app that tracks your physical activity, such as your daily steps. With the help of this app, you have set a goal for yourself to walk 10.000 steps every day.

It's now Monday evening. You have just finished dinner and are heading for the sofa to relax when you hear your app buzzing. It has been tracking your movements all day and it now tells you that you still need another 1000 steps to reach your daily goal.

At a moment when you had almost forgotten about your daily step goal, this message comes as an order from the app to take those extra steps. Just when you were about to sit down and relax, this message dictates you to take those additional steps. You can't help but think that you are being forced to act in a certain way. At this moment, you feel your life being controlled by the app.

3. *Non-ambivalence (neutral)*

Imagine the following scenario as vividly as possible:

You are trying to have a healthier lifestyle. In order to achieve this, you have started using an app that tracks your physical activity, such as your daily steps. With the help of this app, you have set a goal for yourself to walk 10.000 steps every day.

It's now Monday evening. You have just finished dinner and are heading for the sofa to relax when you hear your app buzzing.

You look at the notification from your app. It shows the number of steps you have taken on the same day and on previous days. It also shows you the number of calories you burned and the number of minutes you were engaged in vigorous activity, such as exercising.

Confrontative Coping

Keeping the scenario in mind that you just read, what would you do at the moment you received the notification? For each of the statements below, select a response ranging from 1 (totally disagree) to 7 (totally agree).

1) I would concentrate my efforts on doing something about the situation (adopted from Duhachek 2005)

2) I would try to keep my feelings from controlling what I do at that moment (adopted from Duhacheck 2005 and adjusted)

3) I would try to come up with a strategy about what to do (adopted from Carver 1997)

4) I would adjust the step goal to make it more realistic for my daily routine (developed for this research)

5) I would adjust the settings of the notification messages so that I receive them at times that fit my daily routine better (developed for this research)

6) I would check the data to find out at what other times I could take extra steps (developed for this research)

7) I would make a plan to compensate for these extra steps in the following day (developed for this research)

Avoidance coping

1) I would get upset and let my emotions out (adopted from Carver 1997)

2) I would try to relativize the message, to make it seem more positive (adopted from Carver 1997 and adjusted)

3) I would completely ignore my app at that time (developed for this research)

4) I would distract myself with something else to stop thinking about the message from my app (developed for this research)

5) I would try to find an excuse for why I have not yet reached my step goal (developed for this research)

6) I would think that it would be better to stop using the app for some time (developed for this research)

7) I would think that it would be better to abandon the use of this app completely (developed for this research)

Items moderators

Please read each statement carefully and indicate to what extent it applies to you personally, keeping the scenario in mind. For each of the statements below, select a response ranging from 1 (totally disagree) to 7 (totally agree).

Items for TFA

Item	Source
I am tolerant of ambiguous situations	(Hazen et al., 2012)
I enjoy tackling problems that are complex enough to be ambiguous	
I generally prefer novelty to familiarity	
I prefer a situation in which there is some ambiguity	

Locus of Control

Paulhus, 1983: Personal Efficacy (dimension 1 from SOC scale):

1. When I get what I want, it's usually because I worked hard for it
2. When I make plans, I am almost certain to make them work
3. I prefer games involving some luck over games requiring pure skill (-)
4. I can learn almost anything if I set my mind to it
5. My major accomplishments are entirely due to my hard work and ability
6. I usually don't set goals, because I have a hard time following through on them (-)

7. Competition discourages excellence (-)
8. Often people get ahead just by being lucky (-)
9. On any sort of exam or competition, I like to know how well I do relative to everyone else
10. It's pointless to keep working on something that's too difficult for me (-)

New scale Self-esteem:

The 5-items of the Brief Rosenberg Self-Esteem Scale

01. At times I think I am no good at all.
02. All in all, I am inclined to think that I am a failure
03. I feel I do have much to be proud of.
04. On the whole, I am satisfied with myself.
05. I take a positive attitude toward myself.

Extraversion

- I tend to be quiet and reserved
- I am dominant and act as a leader
- I am full of energy
- I am outgoing and sociable
- I prefer to have other take charge
- I am less active than other people

New self-efficacy scale, GSE-3 Doll, E.S.

1. I can rely on my own abilities in difficult situations.
2. I am able to solve most problems on my own.
3. I can usually solve challenging and complex tasks well.

Questions manipulation check

To what extent do you agree or disagree with each of the following statements about the app?

1. The app created a feeling of conflict in me.
2. The app gave me mixed feelings.
3. I felt that the app was offering me control over my life but also controlling me.
4. I felt like the app was trying to control my life.
5. I felt like the app was dictating me what to do.

Strongly disagree; Disagree; Somewhat disagree; Neither agree nor disagree; Somewhat agree; Agree; Strongly agree

Realism check

1. How easy or difficult was it for you to imagine yourself in that situation?

Very difficult; Difficult; Somewhat difficult; Neither easy nor difficult; Somewhat easy; Easy; Very easy

Attention check

In the scenario you read, on which day of the week did you receive the notification from your app?

Open-ended response

Demographics

- To which age group do you belong?
 - < 18 (exclusion), 18-23 for every 5 years a new choice, until 90 +
- What gender identity do you identify with most?
 - Male, Female, Non-binary/third gender, Prefer not to say
- How long have you used/been using activity trackers?
 - 0-1, 1-2, 2-3, 3-4, 4-5, 5+ years

- Which of the following physical activity trackers have you used/are you using?
 - Fitbit
 - Apple Health app
 - Google Fit
 - Samsung Health
 - Strava
 - Garmin Connect
 - MyFitnessPal
 - YAZIO
 - WeightWatchers
 - BetterMe
 - Lose It!
 - Peloton
 - Xiaomi
 - Other, please name it: (14) _____

Debrief

Thank you for participating in this study!

This study focuses on how people respond to feedback from mobile health apps. More precisely, it examines how emotional reactions, particularly conflicting feelings, influence the way people deal with mental strain. The goal is to understand whether such feedback leads to active problem-solving or rather to avoidant behavior. The study also investigates whether certain personality traits affect how someone responds to these kinds of situations.

You were randomly assigned to one of the following three scenarios:

- A scenario in which you experienced both motivation and reluctance, resulting in mixed feelings.
- A scenario in which you felt demotivated to take action.
- A scenario in which you received only factual information, without any emotional tone or motivational cues.

These scenarios were designed to simulate potential emotional experiences when using health apps. No deception involving false information was used, but the emotional tone of the scenarios was intentionally varied to explore different psychological responses.

If, after reading this explanation, you no longer wish for your data to be included in the analysis, you have the right to request its removal without providing any further explanation. To do so, please contact the research team using the information below. Your responses will otherwise remain anonymous and be handled confidentially.

For questions, comments, or requests to have your data removed, you can contact one of the members of the research team:

Ameryl Juliaans – ameryl.juliaans@ru.nl

Luuk Kessels – luuk.kessels@ru.nl

Simone Kroon – simone.kroon@ru.nl

Jasmijn van Kuijk – jasmijn.vankuijk@ru.nl

Joppe Wijnberger – joppe.wijnberger@ru.nl

Research project supervisor: Olga Tsoumani – olga.tsoumani@ru.nl

We appreciate your time and valuable contribution to this study. Your participation helps advance our research into digital health technologies and how people use them.

Dutch version

Welkom bij ons onderzoek!

Om mee te doen aan dit onderzoek is het belangrijk dat je recent een mobiele gezondheidsapp hebt gebruikt of momenteel gebruikt om je lichamelijke activiteit bij te houden (bijvoorbeeld stappen, hardlopen, enz.). Zo'n app kan een polsbandje/smartwatch zijn dat speciaal is ontworpen voor de registratie van je activiteit (bijvoorbeeld Fitbit of Apple Watch). Het kan óók een app op je smartphone zijn (zoals Samsung Health of Apple Gezondheid), die dan je activiteit bijhoudt.

Met “gebruiken” bedoelen we niet dat je de app dagelijks of intensief moet gebruiken. Ook als je de app af en toe checkt, bijvoorbeeld om te zien hoeveel stappen je hebt gezet, telt dat mee.

Heb je recentelijk een van bovenstaande mobiele gezondheidsapps gebruikt of gebruik je er momenteel een voor het bijhouden van je activiteit?

Ja / Nee

Geïnformeerde toestemming: Voordat je beslist of je wilt deelnemen aan dit onderzoek, lees alsjeblieft onderstaande informatie over wat het onderzoek inhoudt:

Doel: Dit onderzoek heeft als doel om te onderzoeken hoe mensen feedback van hun gezondheidsapps ervaren.

Wat wordt er van je gevraagd?

Je wordt gevraagd om een scenario te lezen over een gezondheidsapp en vervolgens vragen te beantwoorden over dit scenario.

Vrijwillige deelname: Je kunt op elk moment en om welke reden dan ook stoppen met deelname. Als je het onderzoek hebt voltooid, kun je verzoeken om je gegevens te laten verwijderen door een e-mail te sturen naar olga.tsoumani@ru.nl.

Risico's/ongemak: Er zijn geen grote risico's of vormen van ongemak verbonden aan deelname aan dit onderzoek.

Persoonlijke informatie: We vragen je om demografische gegevens en naar je ervaring met het gebruik van gezondheidsapps. Deze informatie wordt echter niet gebruikt om individuele deelnemers te identificeren, ook niet in combinatie met andere gegevens. We verzamelen verder geen privacygevoelige informatie.

Opslag van gegevens: Je gegevens worden vertrouwelijk behandeld en opgeslagen op de beveiligde servers van de Radboud Universiteit, volgens het protocol van de universiteit en in overeenstemming met de Algemene Verordening Gegevensbescherming (AVG). De gegevens kunnen voor andere onderzoeken worden gebruikt en worden minimaal 10 jaar bewaard om de wetenschappelijke integriteit te waarborgen.

Vragen of klachten: Voor vragen over het onderzoek kun je contact opnemen met een van de leden van ons onderzoeksteam (zie de contactgegevens hieronder). Je kunt ook contact opnemen met de begeleider als je dat liever hebt.

Ons onderzoeksteam: Studenten van de MSc opleiding Marketing:

- Ameryl Juliaans – ameryl.juliaans@ru.nl
- Luuk Kessels – luuk.kessels@ru.nl
- Simone Kroon – simone.kroon@ru.nl
- Jasmijn van Kuijk – jasmijn.vankuijk@ru.nl
- Joppe Wijnberger – joppe.wijnberger@ru.nl

Onderzoeksbegeleider:

Olga Tsoumani – olga.tsoumani@ru.nl

Ik heb bovenstaande gelezen en ga akkoord met deelname aan het onderzoek zoals hierboven beschreven.

Ja / Nee

Scenario's

Ambivalence

Probeer je zo goed mogelijk in te leven in het volgende scenario:

Je probeert een gezondere levensstijl te hebben. Om dit te bereiken ben je begonnen met het gebruiken van een app die lichamelijke activiteit bijhoudt, zoals je dagelijkse stappen. Met behulp van deze app heb je jezelf het doel gesteld om elke dag 10.000 stappen te zetten.

Het is nu maandagavond. Je hebt net gegeten en bent onderweg naar de bank om te ontspannen wanneer je app begint te trillen. De app heeft je bewegingen de hele dag bijgehouden en geeft aan dat je nu nog 1000 stappen nodig hebt om je dagelijkse doel te bereiken.

Op een moment dat je je dagelijkse stappendoel bijna was vergeten, komt deze melding zowel als een stimulans als een bevel van de app om die extra stappen te zetten. Net op het moment dat je wilde gaan zitten en ontspannen, moedigt dit bericht je aan om die extra stappen te zetten. Dit bericht laat je nadenken om je gedrag te veranderen. Aan de andere kant, het moedigt je aan om de extra stappen te zetten maar je voelt je enigszins gedwongen om je op een bepaalde manier te gedragen. Op dit moment voel je aan de ene kant dat de app controle heeft over je leven maar je aan de andere kant ook probeert te motiveren.

Non-ambivalence (negatief)

Probeer je zo goed mogelijk in te leven in het volgende scenario:

Je probeert een gezondere levensstijl te hebben. Om dit te bereiken ben je begonnen met het gebruiken van een app die lichamelijke activiteit bijhoudt, zoals je dagelijkse stappen. Met behulp van deze app heb je jezelf het doel gesteld om elke dag 10.000 stappen te zetten.

Het is nu maandagavond. Je hebt net gegeten en bent onderweg naar de bank om te ontspannen wanneer je app begint te trillen. De app heeft je bewegingen de hele dag bijgehouden en geeft aan dat je nu nog 1000 stappen nodig hebt om je dagelijkse doel te bereiken.

Op een moment dat je je dagelijkse stappendoel bijna was vergeten, komt dit bericht als een bevel van de app om die extra stappen te zetten. Net op het moment dat je wilde gaan zitten en ontspannen, vertelt dit bericht je om die extra stappen te zetten. Je kunt het niet helpen, maar je denkt dat je gedwongen wordt om op een bepaalde manier te handelen. Op dit moment heb je het gevoel dat je leven wordt beheerst door de app.

Non-ambivalence (neutraal)

Probeer je zo goed mogelijk in te leven in het volgende scenario:

Je probeert een gezondere levensstijl te hebben. Om dit te bereiken ben je begonnen met het gebruiken van een app die lichamelijke activiteit bijhoudt, zoals je dagelijkse stappen. Met behulp van deze app heb je jezelf het doel gesteld om elke dag 10.000 stappen te zetten.

Het is nu maandagavond. Je hebt net gegeten en bent onderweg naar de bank om te ontspannen wanneer je app begint te trillen. De app heeft je bewegingen de hele dag bijgehouden en geeft aan dat je nu nog 1000 stappen nodig hebt om je dagelijkse doel te bereiken.

Je bekijkt de melding van je app. Het toont het aantal stappen dat je hebt gezet op dezelfde dag en op voorgaande dagen. Het toont je ook het aantal calorieën dat je hebt verbrand en het aantal minuten dat je bezig was met een intensieve activiteit, zoals sporten.

Confrontative coping

Houd het scenario dat je net gelezen hebt in gedachten. Wat zou je op dat moment doen wanneer je de melding ontvangt? Geef voor elk van de onderstaande uitspraken aan in hoeverre die op jou van toepassing is, op een schaal van 1 (helemaal oneens) tot 7 (helemaal eens).

- Ik zou mijn best doen om iets aan de situatie te doen.
- Ik zou proberen mijn gevoelens niet de controle te laten overnemen op dat moment.
- Ik zou proberen een strategie te bedenken over wat ik moet doen.
- Ik zou het stappendoel aanpassen zodat het beter past bij mijn dagelijkse routine.

- Ik zou de instellingen van de meldingen aanpassen zodat ik ze op geschiktere momenten ontvang.
- Ik zou de gegevens bekijken om te zien op welke andere momenten ik extra stappen zou kunnen zetten.
- Ik zou een plan maken om de extra stappen de volgende dag in te halen.

Avoidance coping

- Ik zou boos of verdrietig worden en mijn emoties laten gaan.
- Ik zou proberen het bericht te relativëren, zodat het positiever overkomt.
- Ik zou mijn app op dat moment volledig negeren.
- Ik zou mezelf afleiden met iets anders zodat ik niet meer aan het bericht hoeft te denken.
- Ik zou een excuus proberen te verzinnen waarom ik mijn stappendoel nog niet heb gehaald.
- Ik zou denken dat het beter is om de app een tijdje niet meer te gebruiken.
- Ik zou denken dat ik beter helemaal kan stoppen met het gebruiken van de app.

Items moderators

Lees elke stelling goed door en geef aan in hoeverre deze op jou persoonlijk van toepassing is, terwijl je het beschreven scenario in gedachten houdt. Kies voor elke stelling een cijfer van 1 (helemaal oneens) tot 7 (helemaal eens).

Tolerance for ambiguity

- Ik kan goed omgaan met situaties die niet helemaal duidelijk zijn.
- Ik vind het leuk om problemen op te lossen die ingewikkeld zijn of waar geen duidelijk antwoord op is.
- Ik kies liever voor iets nieuws dan voor iets dat ik al ken.

- Ik voel me prettig in situaties waarin niet alles vastligt of voorspelbaar is.

Locus of control

- Als ik iets bereik, komt dat meestal doordat ik er hard voor heb gewerkt.
- Als ik plannen maak, lukt het me meestal om die ook uit te voeren.
- Ik speel liever spelletjes waarbij geluk een rol speelt dan spelletjes die alleen om vaardigheid gaan.
- Ik kan bijna alles leren als ik er echt voor ga.
- Mijn belangrijkste prestaties komen door mijn eigen inzet en vaardigheden.
- Ik stel vaak geen doelen voor mezelf omdat ik ze toch lastig vind om vol te houden.
- Concurrentie belemmert excellentie.
- Mensen bereiken vaak iets gewoon doordat ze geluk hebben.
- Bij toetsen of wedstrijden wil ik graag weten hoe ik het doe vergeleken met anderen.
- Het heeft geen zin om verder te werken aan iets dat te moeilijk voor me is.

Self-esteem

- Soms denk ik dat ik helemaal nergens goed voor ben.
- Alles bij elkaar genomen, ben ik geneigd te denken dat ik een mislukkeling ben.
- Ik heb het gevoel dat ik veel heb om trots op te zijn.
- Over het algemeen ben ik tevreden met mezelf.
- Ik heb een positieve houding tegenover mezelf.

Extraversion

- Ik ben meestal rustig en houd me op de achtergrond.

- Ik neem graag de leiding.
- Ik heb veel energie.
- Ik ben sociaal en praat makkelijk met anderen.
- Ik laat liever anderen beslissingen nemen.
- Ik ben vaak minder actief dan andere mensen.

Self-efficacy

- In moeilijke situaties kan ik vertrouwen op mijn eigen vaardigheden.
- Ik ben in staat om de meeste problemen zelf op te lossen.
- Moeilijke en ingewikkelde taken kan ik meestal goed oplossen.

Vragen – Manipulatiecheck

In hoeverre ben je het eens of oneens met de volgende uitspraken over de notificatie?

- De notificatie gaf me een gevoel van innerlijk conflict.
- De notificatie gaf me gemengde gevoelens.
- Ik had het gevoel dat de notificatie mij enerzijds controle over mijn leven gaf, maar mij anderzijds ook controleerde.
- Ik had het gevoel dat de notificatie probeerde mijn leven te controleren.
- Ik had het gevoel dat de notificatie mij vertelde wat ik moest doen.

Antwoordopties:

Helemaal oneens – Oneens – Enigszins oneens – Neutraal – Enigszins eens – Eens – Helemaal eens

Realiteitscheck

Hoe makkelijk of moeilijk was het om jezelf in deze situatie in te leven?

*Zeer moeilijk – Moeilijk – Enigszins moeilijk – Noch makkelijk noch moeilijk – Enigszins makkelijk –
Makkelijk – Zeer makkelijk*

Aandachtscheck

Dit is een vraag om te kijken of je het scenario goed hebt gelezen. Op welke dag speelde het scenario zich af?

(Open antwoord)

Demografische gegevens

Tot welke leeftijdsgroep behoor je?

<18 (wordt uitgesloten), 18–23, 24–29, 30–35 ... (in stappen van 5 jaar tot 90+)

Met welke genderidentiteit identificeer je je het meest?

Man, Vrouw, Non-binair/derde gender, Wil ik liever niet zeggen

Hoelang gebruik je al mobiele gezondheidsapps?

0–1 jaar, 1–2 jaar, 2–3 jaar, 3–4 jaar, 4–5 jaar, 5+ jaar

Welke van de volgende mobiele gezondheidsapps heb je gebruikt of gebruik je nog steeds?

- Fitbit
- Apple Gezondheid
- Google Fit
- Samsung Health
- Strava
- Garmin Connect
- MyFitnessPal

- YAZIO
- WeightWatchers
- BetterMe
- Lose It!
- Peloton
- Xiaomi
- Anders, namelijk: (open antwoord)

Debriefing

Bedankt voor je deelname aan dit onderzoek!

Dit onderzoek richt zich op hoe mensen reageren op feedback van mobiele gezondheidsapps. Om precies te zijn onderzoekt de studie hoe emotionele reacties, vooral tegenstrijdige gevoelens, van invloed zijn op de manier waarop mensen omgaan met mentale spanning. Het doel is om te begrijpen hoe dit soort feedback leidt tot een actieve probleemaanpak, of juist tot ontwijkend gedrag. Daarnaast wordt onderzocht of bepaalde persoonlijkheidskenmerken invloed hebben op de manier waarop iemand reageert op dit soort situaties.

Je bent willekeurig toegewezen aan een van de volgende drie scenario's:

- Een scenario waarin je zowel motivatie als tegenzin voelde, dus gemengde gevoelens ervaarde.
- Een scenario waarin je geen motivatie had om actie te ondernemen.
- Een scenario waarin je alleen feitelijke informatie kreeg, zonder dat er gevoelens of motivatie in meespeelden.

Deze scenario's zijn ontworpen om mogelijke emotionele ervaringen bij het gebruik van gezondheidsapps na te bootsen. Er is geen sprake geweest van misleiding met valse informatie, maar

de emotionele toon in de scenario's is bewust gevarieerd om verschillende psychologische reacties te onderzoeken.

Als je na het lezen van deze uitleg niet langer wilt dat jouw gegevens worden meegenomen in de analyse, heb je het recht om deze zonder verdere toelichting te laten verwijderen. Neem hiervoor contact op met het onderzoeksteam via de onderstaande gegevens. Jouw antwoorden blijven verder anoniem en worden vertrouwelijk behandeld.

Voor vragen, opmerkingen of verzoeken tot verwijdering van je gegevens kun je contact opnemen met een van de leden van het onderzoeksteam:

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Wij waarderen je tijd en waardevolle bijdrage aan dit onderzoek. Jouw deelname helpt ons onderzoek naar digitale gezondheidsapps en het gebruik hiervan verder te ontwikkelen.

Appendix B: SPSS Output

Pilot study

		ANOVA				
		Sum of Squares	df	Mean Square	F	Sig.
AmbiMC	Between Groups	.063	2	.031	.012	.988
	Within Groups	86.267	32	2.696		
	Total	86.330	34			
NegMC	Between Groups	5.867	2	2.934	1.844	.175
	Within Groups	50.908	32	1.591		
	Total	56.775	34			

AC2 avoidance coping reliability analysis without deleting items

		Item-Total Statistics			
		Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Reliability Statistics	A_C_Co_1	19,89	64,102	,736	,829
	A_C_Co_2	17,71	74,773	,330	,880
	A_C_Co_3	18,42	66,117	,537	,857
	A_C_Co_4	18,92	61,602	,721	,829
	A_C_Co_5	18,41	63,411	,628	,844
	A_C_Co_6	19,59	62,615	,747	,827
	A_C_Co_7	19,79	63,962	,753	,827
Reliability Statistics					
Cronbach's Alpha	N of Items				
,862	7				

AC2 confrontative coping reliability analysis without deleting items

		Item-Total Statistics			
		Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Reliability Statistics	A_C_Co_8	24.10	52.502	.566	.738
	A_C_Co_9	23.87	58.471	.287	.788
	A_C_Co_10	24.62	48.787	.644	.720
	A_C_Co_11	25.05	53.408	.455	.759
	A_C_Co_12	24.97	50.993	.494	.752
	A_C_Co_13	24.68	50.067	.588	.732
	A_C_Co_14	24.80	52.612	.483	.753
Reliability Statistics					
Cronbach's Alpha	N of Items				
.778	7				

AC2 factor analysis first iteration

Communalities

	Initial	Extraction
A_C_Co_1	1,000	,690
A_C_Co_2	1,000	,313
A_C_Co_3	1,000	,515
A_C_Co_4	1,000	,668
A_C_Co_5	1,000	,539
A_C_Co_6	1,000	,713
A_C_Co_7	1,000	,713
A_C_Co_8	1,000	,591
A_C_Co_9	1,000	,272
A_C_Co_10	1,000	,643
A_C_Co_11	1,000	,423
A_C_Co_12	1,000	,512
A_C_Co_13	1,000	,528
A_C_Co_14	1,000	,431

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,825
Bartlett's Test of Sphericity	Approx. Chi-Square	1069,116
	df	91
	Sig.	<,001

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5,111	36,508	36,508	5,111	36,508	36,508	4,454	31,813	31,813
2	2,438	17,415	53,923	2,438	17,415	53,923	3,095	22,110	53,923
3	1,261	9,007	62,930						
4	,945	6,747	69,677						
5	,792	5,654	75,331						
6	,634	4,525	79,857						
7	,570	4,068	83,925						
8	,513	3,665	87,590						
9	,479	3,424	91,014						
10	,366	2,613	93,627						
11	,310	2,216	95,843						
12	,240	1,718	97,561						
13	,187	1,337	98,898						
14	,154	1,102	100,000						

Extraction Method: Principal Component Analysis.

Rotated Component Matrix^a

	Component	
	1	2
A_C_Co_1	,818	-,142
A_C_Co_2	,470	,303
A_C_Co_3	,611	-,376
A_C_Co_4	,817	,029
A_C_Co_5	,733	,044
A_C_Co_6	,826	-,173
A_C_Co_7	,827	-,171
A_C_Co_8	-,494	,589
A_C_Co_9	-,464	,238
A_C_Co_10	-,297	,745
A_C_Co_11	,063	,647
A_C_Co_12	,102	,708
A_C_Co_13	-,226	,691
A_C_Co_14	-,082	,651

Extraction Method: Principal
Component Analysis.

Rotation Method: Varimax with
Kaiser Normalization.

a. Rotation converged in 3
iterations.

AC2 factor analysis 2nd iteration after deleting item 2

Communalities

	Initial	Extraction
A_C_Co_1	1,000	,713
A_C_Co_3	1,000	,511
A_C_Co_4	1,000	,660
A_C_Co_5	1,000	,519
A_C_Co_6	1,000	,742
A_C_Co_7	1,000	,737
A_C_Co_8	1,000	,595
A_C_Co_9	1,000	,282
A_C_Co_10	1,000	,625
A_C_Co_11	1,000	,423
A_C_Co_12	1,000	,486
A_C_Co_13	1,000	,561
A_C_Co_14	1,000	,476

Extraction Method: Principal Component Analysis.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,824
Bartlett's Test of Sphericity	Approx. Chi-Square	1022,264
	df	78
	Sig.	<,001

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5,058	38,911	38,911	5,058	38,911	38,911	4,352	33,476	33,476
2	2,273	17,481	56,392	2,273	17,481	56,392	2,979	22,915	56,392
3	1,203	9,256	65,648						
4	,827	6,360	72,008						
5	,676	5,199	77,207						
6	,629	4,840	82,048						
7	,555	4,270	86,317						
8	,507	3,897	90,214						
9	,370	2,843	93,058						
10	,313	2,407	95,465						
11	,244	1,878	97,343						
12	,191	1,470	98,813						
13	,154	1,187	100,000						

Extraction Method: Principal Component Analysis.

Rotated Component Matrix^a

	Component	
	1	2
A_C_Co_1	,839	-,100
A_C_Co_3	,604	-,382
A_C_Co_4	,811	,044
A_C_Co_5	,719	,048
A_C_Co_6	,852	-,127
A_C_Co_7	,848	-,129
A_C_Co_8	-,499	,588
A_C_Co_9	-,494	,195
A_C_Co_10	-,333	,717
A_C_Co_11	,048	,649
A_C_Co_12	,071	,694
A_C_Co_13	-,217	,717
A_C_Co_14	-,068	,687

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

- a. Rotation converged in 3 iterations.

AC2 factor analysis 3rd iteration after deleting item 9

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,824
Bartlett's Test of Sphericity	Approx. Chi-Square	951,293
	df	66
	Sig.	<,001

Communalities

	Initial	Extraction
A_C_Co_1	1,000	,679
A_C_Co_3	1,000	,545
A_C_Co_4	1,000	,674
A_C_Co_5	1,000	,513
A_C_Co_6	1,000	,754
A_C_Co_7	1,000	,746
A_C_Co_8	1,000	,600
A_C_Co_10	1,000	,625
A_C_Co_11	1,000	,424
A_C_Co_12	1,000	,488
A_C_Co_13	1,000	,565
A_C_Co_14	1,000	,482

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4,826	40,216	40,216	4,826	40,216	40,216	4,119	34,324	34,324
2	2,268	18,900	59,117	2,268	18,900	59,117	2,975	24,793	59,117
3	1,044	8,698	67,815						
4	,775	6,456	74,271						
5	,676	5,632	79,903						
6	,575	4,791	84,694						
7	,507	4,222	88,916						
8	,379	3,156	92,073						
9	,315	2,621	94,694						
10	,270	2,253	96,947						
11	,208	1,732	98,679						
12	,159	1,321	100,000						

Extraction Method: Principal Component Analysis.

Rotated Component Matrix^a

	Component	
	1	2
A_C_Co_1	,817	-,109
A_C_Co_3	,625	-,393
A_C_Co_4	,820	,031
A_C_Co_5	,715	,038
A_C_Co_6	,857	-,140
A_C_Co_7	,852	-,142
A_C_Co_8	-,496	,595
A_C_Co_10	-,323	,722
A_C_Co_11	,071	,648
A_C_Co_12	,099	,691
A_C_Co_13	-,215	,720
A_C_Co_14	-,076	,690

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

AC2 avoidance coping reliability analysis after deleting items

Item-Total Statistics

Reliability Statistics		Item-Total Statistics				
		Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	
Cronbach's Alpha	N of Items	A_C_Co_1	15.47	53.392	.754	.849
		A_C_Co_3	14.01	55.455	.540	.884
		A_C_Co_4	14.50	51.777	.707	.855
		A_C_Co_5	14.00	53.718	.601	.874
		A_C_Co_6	15.18	51.647	.781	.843
		A_C_Co_7	15.38	53.069	.780	.845
		.880	6			

AC2 confrontative coping reliability analysis after deleting items

Reliability Statistics		Item-Total Statistics				
		Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	
Cronbach's Alpha	N of Items	A_C_Co_8	19.29	43.952	.538	.757
		A_C_Co_10	19.82	40.254	.633	.733
		A_C_Co_11	20.24	44.210	.454	.776
		A_C_Co_12	20.16	42.071	.489	.770
		A_C_Co_13	19.87	40.924	.601	.741
		A_C_Co_14	19.99	42.525	.528	.759
.788	6					

AC2 TFA reliability and validity analysis

Item-Total Statistics					Component Matrix ^a	
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	Component 1	
TFA_1	12,64	13,616	,633	,761	TFA_1	,803
TFA_2	12,43	13,003	,649	,753	TFA_2	,815
TFA_3	13,27	13,162	,604	,775	TFA_3	,780
TFA_4	12,94	13,413	,630	,763	TFA_4	,800

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Reliability Statistics

Cronbach's Alpha	N of Items
,811	4

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,801
Bartlett's Test of Sphericity	Approx. Chi-Square	194,803
	df	6
	Sig.	<,001

Communalities

	Initial	Extraction
TFA_1	1,000	,645
TFA_2	1,000	,664
TFA_3	1,000	,608
TFA_4	1,000	,639

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Total	Initial Eigenvalues		Extraction Sums of Squared Loadings		
		% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2,556	63,906	63,906	2,556	63,906	63,906
2	,528	13,212	77,118			
3	,486	12,140	89,258			
4	,430	10,742	100,000			

Extraction Method: Principal Component Analysis.

AC1 avoidance coping reliability analysis without deleting items

Item-Total Statistics

		Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Reliability Statistics					
	Cronbach's Alpha				
	N of Items				

AC1 confrontative coping reliability analysis without deleting items

Rotated Component Matrix^a

	Component	
	1	2
A_C_Co_1	.827	
A_C_Co_2	.487	.283
A_C_Co_3	.638	-.370
A_C_Co_4	.823	
A_C_Co_5	.729	
A_C_Co_6	.834	
A_C_Co_7	.862	
A_C_Co_8	-.522	.606
A_C_Co_9	-.496	.270
A_C_Co_10	-.325	.773
A_C_Co_11		.696
A_C_Co_12		.726
A_C_Co_13	-.224	.733
A_C_Co_14		.669

Extraction Method: Principal
Component Analysis.

Rotation Method: Varimax with
Kaiser Normalization.

a. Rotation converged in 3
iterations.

AC1 factor analysis 2nd iteration with deleting item 2

Communalities

	Initial	Extraction
A_C_Co_1	1.000	.732
A_C_Co_3	1.000	.536
A_C_Co_4	1.000	.674
A_C_Co_5	1.000	.515
A_C_Co_6	1.000	.760
A_C_Co_7	1.000	.791
A_C_Co_8	1.000	.643
A_C_Co_9	1.000	.329
A_C_Co_10	1.000	.700
A_C_Co_11	1.000	.477
A_C_Co_12	1.000	.520
A_C_Co_13	1.000	.609
A_C_Co_14	1.000	.482

Extraction Method: Principal Component Analysis.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.844
Bartlett's Test of Sphericity	Approx. Chi-Square	1001.001
	df	78
	Sig.	<.001

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.442	41.862	41.862	5.442	41.862	41.862	4.566	35.126	35.126
2	2.324	17.879	59.740	2.324	17.879	59.740	3.200	24.614	59.740
3	1.132	8.704	68.444						
4	.721	5.546	73.991						
5	.654	5.034	79.025						
6	.598	4.597	83.623						
7	.514	3.956	87.579						
8	.467	3.591	91.169						
9	.351	2.701	93.871						
10	.277	2.129	95.999						
11	.218	1.675	97.674						
12	.183	1.405	99.079						
13	.120	.921	100.000						

Extraction Method: Principal Component Analysis.

Rotated Component Matrix^a

	Component	
	1	2
A_C_Co_1	.849	
A_C_Co_3	.630	-.372
A_C_Co_4	.820	
A_C_Co_5	.718	
A_C_Co_6	.861	
A_C_Co_7	.883	
A_C_Co_8	-.528	.603
A_C_Co_9	-.525	.229
A_C_Co_10	-.349	.761
A_C_Co_11		.691
A_C_Co_12		.718
A_C_Co_13	-.227	.746
A_C_Co_14		.689

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

- a. Rotation converged in 3 iterations.

AC1 factor analysis 3rd iteration with deleting item 9

Communalities

	Initial	Extraction
A_C_Co_1	1.000	.695
A_C_Co_3	1.000	.569
A_C_Co_4	1.000	.694
A_C_Co_5	1.000	.511
A_C_Co_6	1.000	.771
A_C_Co_7	1.000	.796
A_C_Co_8	1.000	.646
A_C_Co_10	1.000	.706
A_C_Co_11	1.000	.477
A_C_Co_12	1.000	.520
A_C_Co_13	1.000	.611
A_C_Co_14	1.000	.486

Extraction Method: Principal Component Analysis.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.844
Bartlett's Test of Sphericity	Approx. Chi-Square	930.346
	df	66
	Sig.	<.001

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.164	43.037	43.037	5.164	43.037	43.037	4.299	35.829	35.829
2	2.319	19.326	62.363	2.319	19.326	62.363	3.184	26.534	62.363
3	.976	8.131	70.494						
4	.719	5.988	76.482						
5	.613	5.105	81.587						
6	.514	4.287	85.873						
7	.494	4.113	89.986						
8	.352	2.929	92.916						
9	.287	2.392	95.307						
10	.237	1.976	97.283						
11	.200	1.668	98.951						
12	.126	1.049	100.000						

Extraction Method: Principal Component Analysis.

Rotated Component Matrix^a

	Component	
	1	2
A_C_Co_1	.827	
A_C_Co_3	.649	-.384
A_C_Co_4	.833	
A_C_Co_5	.715	
A_C_Co_6	.865	
A_C_Co_7	.884	
A_C_Co_8	-.524	.610
A_C_Co_10	-.346	.766
A_C_Co_11		.690
A_C_Co_12		.716
A_C_Co_13	-.222	.750
A_C_Co_14		.691

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

AC1 avoidance coping reliability analysis after deleting items

Reliability Statistics		Item-Total Statistics				
		Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	
Cronbach's Alpha	N of Items	A_C_Co_1	15.72	58.603	.764	.865
		A_C_Co_3	14.26	60.374	.580	.895
.892	6	A_C_Co_4	14.71	57.021	.726	.871
		A_C_Co_5	14.31	59.578	.618	.888
		A_C_Co_6	15.42	56.719	.797	.859
		A_C_Co_7	15.68	58.307	.820	.858

AC1 confrontative coping reliability analysis after deleting items

Reliability Statistics		Item-Total Statistics				
		Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	
Cronbach's Alpha	N of Items	A_C_Co_8	19.09	47.311	.590	.793
		A_C_Co_10	19.68	43.047	.713	.765
.821	6	A_C_Co_11	20.04	47.265	.509	.809
		A_C_Co_12	19.99	46.170	.525	.807
		A_C_Co_13	19.65	43.917	.650	.779
		A_C_Co_14	19.82	46.403	.546	.801

AC1 TFA reliability analysis

Hoelang gebruik je al mobiele gezondheidsapps? * Condition_new Crosstabulation

		Condition_new			Total	
		Neutral	Negative	Ambivalence		
Hoelang gebruik je al mobiele gezondheidsapps?	0-1 jaar	Count	4	5	1	10
		Expected Count	3,3	3,9	2,8	10,0
		% within Hoelang gebruik je al mobiele gezondheidsapps?	40,0%	50,0%	10,0%	100,0%
		% within Condition_new	7,7%	8,2%	2,3%	6,4%
	1-2 jaar	Count	10	9	3	22
		Expected Count	7,3	8,5	6,2	22,0
		% within Hoelang gebruik je al mobiele gezondheidsapps?	45,5%	40,9%	13,6%	100,0%
		% within Condition_new	19,2%	14,8%	6,8%	14,0%
	2-3 jaar	Count	10	9	11	30
		Expected Count	9,9	11,7	8,4	30,0
		% within Hoelang gebruik je al mobiele gezondheidsapps?	33,3%	30,0%	36,7%	100,0%
		% within Condition_new	19,2%	14,8%	25,0%	19,1%
	3-4 jaar	Count	6	16	7	29
		Expected Count	9,6	11,3	8,1	29,0
		% within Hoelang gebruik je al mobiele gezondheidsapps?	20,7%	55,2%	24,1%	100,0%
		% within Condition_new	11,5%	26,2%	15,9%	18,5%
	4-5 jaar	Count	5	7	6	18
		Expected Count	6,0	7,0	5,0	18,0
		% within Hoelang gebruik je al mobiele gezondheidsapps?	27,8%	38,9%	33,3%	100,0%
		% within Condition_new	9,6%	11,5%	13,6%	11,5%
5+ jaar	Count	17	15	16	48	
	Expected Count	15,9	18,6	13,5	48,0	
	% within Hoelang gebruik je al mobiele gezondheidsapps?	35,4%	31,3%	33,3%	100,0%	
	% within Condition_new	32,7%	24,6%	36,4%	30,6%	
Total	Count	52	61	44	157	
	Expected Count	52,0	61,0	44,0	157,0	
	% within Hoelang gebruik je al mobiele gezondheidsapps?	33,1%	38,9%	28,0%	100,0%	
	% within Condition_new	100,0%	100,0%	100,0%	100,0%	

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	10,793 ^a	10	,374
Likelihood Ratio	11,407	10	,327
Linear-by-Linear Association	1,809	1	,179
N of Valid Cases	157		

a. 3 cells (16,7%) have expected count less than 5. The minimum expected count is 2,80.

Met welke genderidentiteit identificeer je je het meest? * Condition_new Crosstabulation

			Condition_new			Total
			Neutral	Negative	Ambivalence	
Met welke genderidentiteit identificeer je je het meest?	Man	Count	22	32	19	73
		Expected Count	24,2	28,4	20,5	73,0
		% within Met welke genderidentiteit identificeer je je het meest?	30,1%	43,8%	26,0%	100,0%
		% within Condition_new	42,3%	52,5%	43,2%	46,5%
	Vrouw	Count	30	29	25	84
		Expected Count	27,8	32,6	23,5	84,0
		% within Met welke genderidentiteit identificeer je je het meest?	35,7%	34,5%	29,8%	100,0%
		% within Condition_new	57,7%	47,5%	56,8%	53,5%
Total	Count	52	61	44	157	
	Expected Count	52,0	61,0	44,0	157,0	
	% within Met welke genderidentiteit identificeer je je het meest?	33,1%	38,9%	28,0%	100,0%	
	% within Condition_new	100,0%	100,0%	100,0%	100,0%	

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1,433 ^a	2	,489
Likelihood Ratio	1,433	2	,489
Linear-by-Linear Association	,022	1	,883
N of Valid Cases	157		

a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 20,46.

Tot welke leeftijdsgroep behoort je? * Condition_new Crosstabulation

		Condition_new			Total	
		Neutral	Negative	Ambivalence		
Tot welke leeftijdsgroep behoort je?	16-23	Count	15	17	9	41
		Expected Count	13,6	15,9	11,5	41,0
		% within Tot welke leeftijdsgroep behoort je?	36,6%	41,5%	22,0%	100,0%
		% within Condition_new	28,8%	27,9%	20,5%	26,1%
	24-29	Count	20	22	19	61
		Expected Count	20,2	23,7	17,1	61,0
		% within Tot welke leeftijdsgroep behoort je?	32,8%	36,1%	31,1%	100,0%
		% within Condition_new	38,5%	36,1%	43,2%	38,9%
	30-35	Count	5	2	5	12
		Expected Count	4,0	4,7	3,4	12,0
		% within Tot welke leeftijdsgroep behoort je?	41,7%	16,7%	41,7%	100,0%
		% within Condition_new	9,6%	3,3%	11,4%	7,6%
	36-41	Count	4	4	3	11
		Expected Count	3,6	4,3	3,1	11,0
		% within Tot welke leeftijdsgroep behoort je?	36,4%	36,4%	27,3%	100,0%
		% within Condition_new	7,7%	6,6%	6,8%	7,0%
42-47	Count	1	3	0	4	
	Expected Count	1,3	1,6	1,1	4,0	
	% within Tot welke leeftijdsgroep behoort je?	25,0%	75,0%	0,0%	100,0%	
	% within Condition_new	1,9%	4,9%	0,0%	2,5%	
48-53	Count	4	4	1	9	
	Expected Count	3,0	3,5	2,5	9,0	
	% within Tot welke leeftijdsgroep behoort je?	44,4%	44,4%	11,1%	100,0%	
	% within Condition_new	7,7%	6,6%	2,3%	5,7%	
54-59	Count	2	7	6	15	
	Expected Count	5,0	5,8	4,2	15,0	
	% within Tot welke leeftijdsgroep behoort je?	13,3%	46,7%	40,0%	100,0%	
	% within Condition_new	3,8%	11,5%	13,6%	9,6%	
60-65	Count	1	0	1	2	
	Expected Count	,7	,8	,6	2,0	
	% within Tot welke leeftijdsgroep behoort je?	50,0%	0,0%	50,0%	100,0%	
	% within Condition_new	1,9%	0,0%	2,3%	1,3%	
66-71	Count	0	2	0	2	
	Expected Count	,7	,8	,6	2,0	
	% within Tot welke leeftijdsgroep behoort je?	0,0%	100,0%	0,0%	100,0%	
	% within Condition_new	0,0%	3,3%	0,0%	1,3%	
Total	Count	52	61	44	157	
	Expected Count	52,0	61,0	44,0	157,0	
	% within Tot welke leeftijdsgroep behoort je?	33,1%	38,9%	28,0%	100,0%	
	% within Condition_new	100,0%	100,0%	100,0%	100,0%	

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	14,836 ^a	16	,537
Likelihood Ratio	17,978	16	,325
Linear-by-Linear Association	,620	1	,431
N of Valid Cases	157		

a. 20 cells (74,1%) have expected count less than 5. The minimum expected count is ,56.

AC2 ANOVA manipulation check

Condition_new

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	52	33.1	33.1	33.1
	Negative	61	38.9	38.9	72.0
	Ambivalence	44	28.0	28.0	100.0
	Total	157	100.0	100.0	

Tests of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
AmbiMC	Based on Mean	2.030	2	154	.135
	Based on Median	1.925	2	154	.149
	Based on Median and with adjusted df	1.925	2	138.806	.150
	Based on trimmed mean	2.010	2	154	.138
NegMC	Based on Mean	19.765	2	154	<.001
	Based on Median	17.260	2	154	<.001
	Based on Median and with adjusted df	17.260	2	136.937	<.001
	Based on trimmed mean	20.076	2	154	<.001

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
AmbiMC	Between Groups	7.988	2	3.994	1.676	.191
	Within Groups	367.000	154	2.383		
	Total	374.988	156			
NegMC	Between Groups	72.101	2	36.051	13.760	<.001
	Within Groups	403.469	154	2.620		
	Total	475.570	156			

Multiple Comparisons

Dependent Variable: AmbiMC

Tukey HSD

(I) Condition_new	(J) Condition_new	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Neutral	Negative	-.44063	.29137	.288	-1.1302	.2489
	Ambivalence	-.52098	.31621	.229	-1.2693	.2274
Negative	Neutral	.44063	.29137	.288	-.2489	1.1302
	Ambivalence	-.08035	.30533	.963	-.8030	.6422
Ambivalence	Neutral	.52098	.31621	.229	-.2274	1.2693
	Negative	.08035	.30533	.963	-.6422	.8030

Robust Tests of Equality of Means

NegMC

	Statistic ^a	df1	df2	Sig.
Welch	11.890	2	98.589	<.001

a. Asymptotically F distributed.

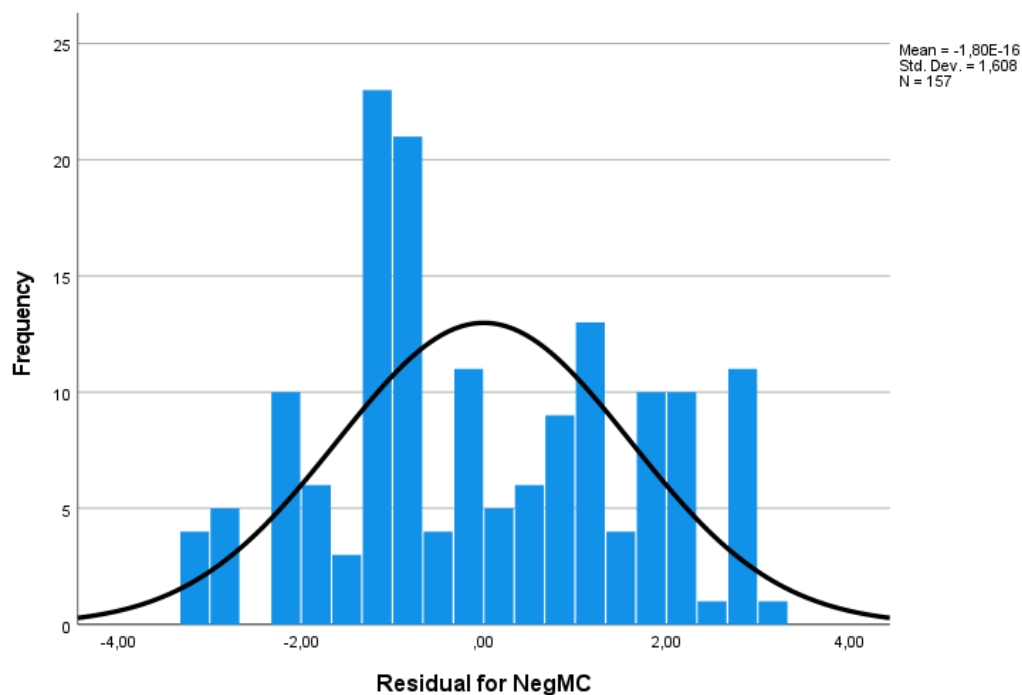
Multiple Comparisons

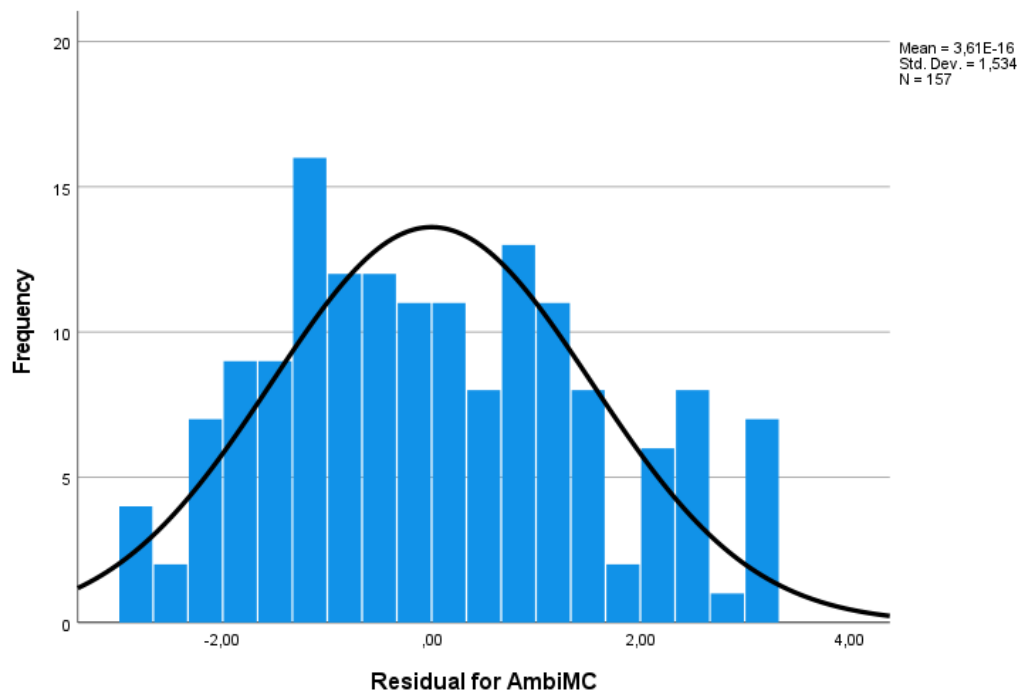
Dependent Variable: NegMC

Games-Howell

(I) Condition_new	(J) Condition_new	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Neutral	Negative	-1.50016*	.30814	<.001	-2.2336	-.7667
	Ambivalence	-.27885	.26157	.538	-.9029	.3452
Negative	Neutral	1.50016*	.30814	<.001	.7667	2.2336
	Ambivalence	1.22131*	.33568	.001	.4230	2.0196
Ambivalence	Neutral	.27885	.26157	.538	-.3452	.9029
	Negative	-1.22131*	.33568	.001	-2.0196	-.4230

*. The mean difference is significant at the 0.05 level.





AC2 One-sample t-test realism check

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
Hoe makkelijk of moeilijk was het om jezelf in deze situatie in te leven?	157	5,47	1,238	,099

One-Sample Test							
Test Value = 4							
	t	df	Significance		Mean Difference	95% Confidence Interval of the Difference	
			One-Sided p	Two-Sided p		Lower	Upper
Hoe makkelijk of moeilijk was het om jezelf in deze situatie in te leven?	14,891	156	<,001	<,001	1,471	1,28	1,67

One-Sample Effect Sizes					
	Standardizer ^a	Point Estimate	95% Confidence Interval		
			Lower	Upper	
Hoe makkelijk of moeilijk was het om jezelf in deze situatie in te leven?	Cohen's d	1,238	1,188	,983	1,392
	Hedges' correction	1,244	1,183	,978	1,385

a. The denominator used in estimating the effect sizes.
Cohen's d uses the sample standard deviation.
Hedges' correction uses the sample standard deviation, plus a correction factor.

AC2 ANOVA realism check

Tests of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Hoe makkelijk of moeilijk was het om jezelf in deze situatie in te leven?	Based on Mean	2,693	2	154	,071
	Based on Median	1,266	2	154	,285
	Based on Median and with adjusted df	1,266	2	146,114	,285
	Based on trimmed mean	2,484	2	154	,087

ANOVA

Hoe makkelijk of moeilijk was het om jezelf in deze situatie in te leven?

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1,223	2	,612	,396	,674
Within Groups	237,898	154	1,545		
Total	239,121	156			

ANOVA Effect Sizes^{a,b}

		Point Estimate	95% Confidence Interval	
			Lower	Upper
Hoe makkelijk of moeilijk was het om jezelf in deze situatie in te leven?	Eta-squared	,005	,000	,038
	Epsilon-squared	-,008	-,013	,026
	Omega-squared Fixed-effect	-,008	-,013	,025
	Omega-squared Random-effect	-,004	-,006	,013

a. Eta-squared and Epsilon-squared are estimated based on the fixed-effect model.

b. Negative but less biased estimates are retained, not rounded to zero.

AC2 Regression

Model Summary ^d						Model Summary ^d					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,280 ^a	,078	,060	1,23540		1	,303 ^a	,092	,074	1,38674	
2	,490 ^b	,240	,209	1,13329		2	,664 ^b	,440	,418	1,09945	
3	,491 ^c	,241	,200	1,13997	1,796	3	,722 ^c	,521	,495	1,02403	1,955

a. Predictors: (Constant), Hoelang gebruik je al mobiele gezondheidsapps?, Dummy_Gender, Tot welke leeftijdsgroep behoort je?

b. Predictors: (Constant), Hoelang gebruik je al mobiele gezondheidsapps?, Dummy_Gender, Tot welke leeftijdsgroep behoort je?, Zscore (TFA_GEMIDDELD), dummy_neutraal, dummy_negatief

c. Predictors: (Constant), Hoelang gebruik je al mobiele gezondheidsapps?, Dummy_Gender, Tot welke leeftijdsgroep behoort je?, Zscore (TFA_GEMIDDELD), dummy_neutraal, dummy_negatief, Moderator_neutraal_TFA, Moderator_negatieve_TFA

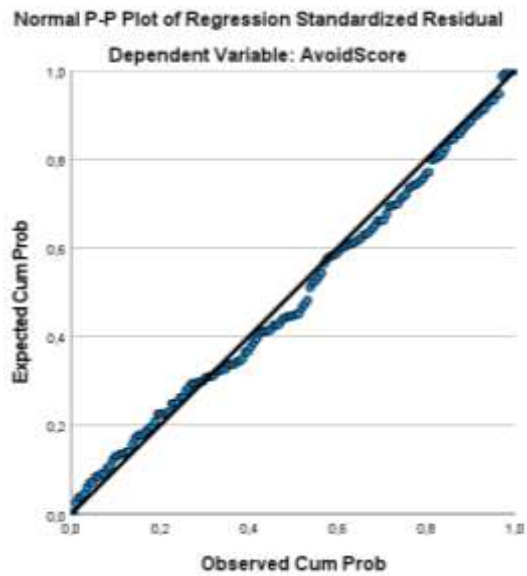
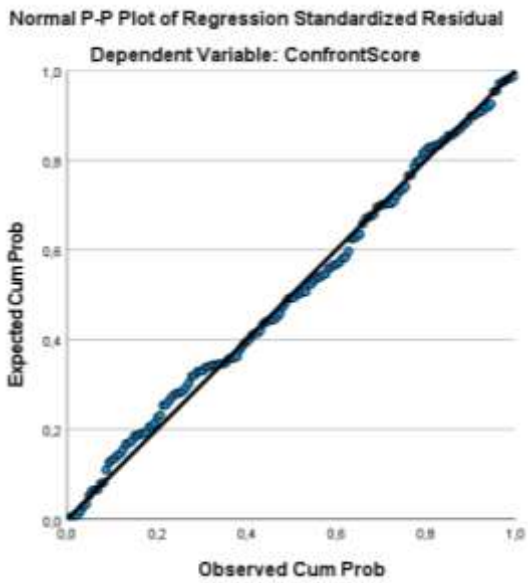
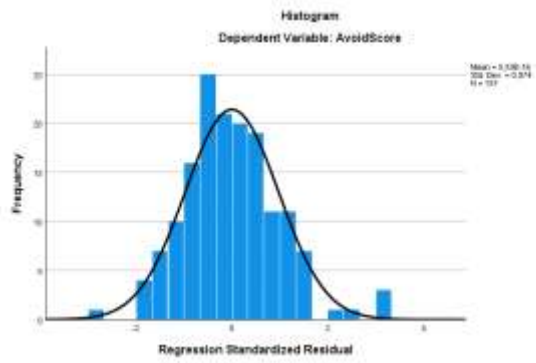
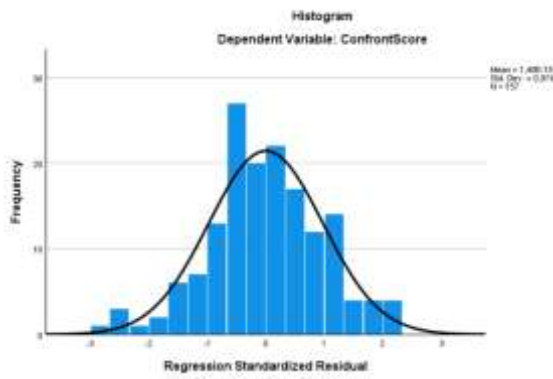
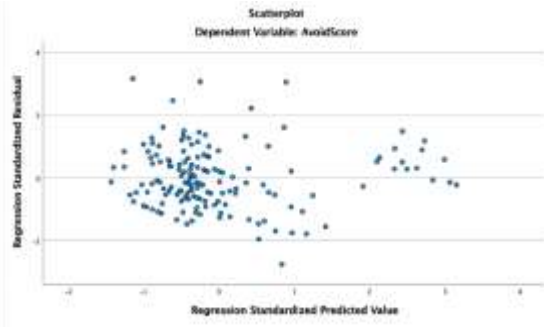
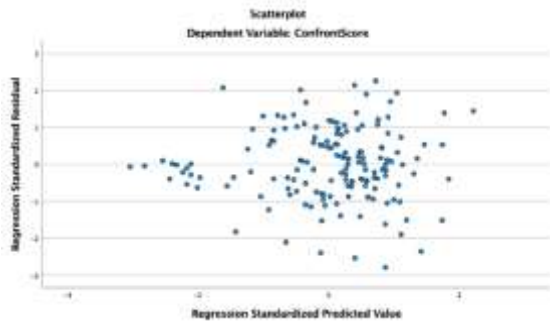
d. Dependent Variable: ConfrontScore

a. Predictors: (Constant), Hoelang gebruik je al mobiele gezondheidsapps?, Dummy_Gender, Tot welke leeftijdsgroep behoort je?

b. Predictors: (Constant), Hoelang gebruik je al mobiele gezondheidsapps?, Dummy_Gender, Tot welke leeftijdsgroep behoort je?, Zscore (TFA_GEMIDDELD), dummy_neutraal, dummy_negatief

c. Predictors: (Constant), Hoelang gebruik je al mobiele gezondheidsapps?, Dummy_Gender, Tot welke leeftijdsgroep behoort je?, Zscore (TFA_GEMIDDELD), dummy_neutraal, dummy_negatief, Moderator_neutraal_TFA, Moderator_negatieve_TFA

d. Dependent Variable: AvoidScore



Descriptive Statistics

	Mean	Std. Deviation	N
ConfrontScore	3,9788	1,27444	157
Tot welke leeftijdsgroep behoort je?	2,90	2,109	157
Hoelang gebruik je al mobiele gezondheidsapps?	4,06	1,636	157
Dummy_Gender	,5350	,50037	157
dummy_negatief	,39	,489	157
dummy_neutraal	,33	,472	157
Zscore(TFA_GEMIDDELD)	,0000000	1,0000000	157
Moderator_neutral_TFA	,0608	,52272	157
Moderator_negative_TFA	-,1078	,63842	157

Correlations

		ConfrontScore	Tot welke leeftijdsgroep behoort je?	Hoelang gebruik je al mobiele gezondheidsapps?	Dummy_Gender	dummy_negatief	dummy_neutraal	Zscore (TFA_GEMIDDELD)	Moderator_neutral_TFA	Moderator_negative_TFA
Pearson Correlation	ConfrontScore	1,000	-,225	-,023	,201	-,148	,006	,388	,131	,340
	Tot welke leeftijdsgroep behoort je?	-,225	1,000	,097	-,164	,074	-,090	-,071	,074	-,381
	Hoelang gebruik je al mobiele gezondheidsapps?	-,023	,097	1,000	,091	-,071	-,052	,022	,018	-,023
	Dummy_Gender	,201	-,164	,091	1,000	-,095	,058	-,057	-,109	,178
	dummy_negatief	-,148	,074	-,071	-,095	1,000	-,561	-,222	-,093	-,213
	dummy_neutraal	,006	-,090	-,052	,058	-,561	1,000	,130	,166	,119
	Zscore(TFA_GEMIDDELD)	,388	-,071	,022	-,057	-,222	,130	1,000	,530	,657
	Moderator_neutral_TFA	,131	,074	,018	-,109	-,093	,166	,530	1,000	,020
	Moderator_negative_TFA	,340	-,381	-,023	,178	-,213	,119	,657	,020	1,000
Sig. (1-tailed)	ConfrontScore		,002	,385	,006	,032	,468	<,001	,052	<,001
	Tot welke leeftijdsgroep behoort je?			,114	,020	,180	,130	,190	,178	,000
	Hoelang gebruik je al mobiele gezondheidsapps?				,128	,188	,257	,390	,411	,389
	Dummy_Gender					,118	,231	,239	,087	,013
	dummy_negatief						,000	,002	,123	,004
	dummy_neutraal							,053	,019	,068
	Zscore(TFA_GEMIDDELD)								,000	,000
	Moderator_neutral_TFA									,403
	Moderator_negative_TFA									
N	ConfrontScore	157	157	157	157	157	157	157	157	157
	Tot welke leeftijdsgroep behoort je?	157	157	157	157	157	157	157	157	157
	Hoelang gebruik je al mobiele gezondheidsapps?	157	157	157	157	157	157	157	157	157
	Dummy_Gender	157	157	157	157	157	157	157	157	157
	dummy_negatief	157	157	157	157	157	157	157	157	157
	dummy_neutraal	157	157	157	157	157	157	157	157	157
	Zscore(TFA_GEMIDDELD)	157	157	157	157	157	157	157	157	157
	Moderator_neutral_TFA	157	157	157	157	157	157	157	157	157
	Moderator_negative_TFA	157	157	157	157	157	157	157	157	157

Model Summary^d

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	,280 ^a	,078	,060	1,23540	,078	4,338	3	153	,006
2	,490 ^b	,240	,209	1,13329	,161	10,605	3	150	<,001
3	,491 ^c	,241	,200	1,13997	,001	,122	2	148	,885

- a. Predictors: (Constant), Dummy_Gender, Hoelang gebruik je al mobiele gezondheidsapps?, Tot welke leeftijdsgroep behoort je?
- b. Predictors: (Constant), Dummy_Gender, Hoelang gebruik je al mobiele gezondheidsapps?, Tot welke leeftijdsgroep behoort je?, Zscore(TFA_GEMIDDELD), dummy_neutraal, dummy_negatief
- c. Predictors: (Constant), Dummy_Gender, Hoelang gebruik je al mobiele gezondheidsapps?, Tot welke leeftijdsgroep behoort je?, Zscore(TFA_GEMIDDELD), dummy_neutraal, dummy_negatief, Moderator_neutral_TFA, Moderator_negative_TFA
- d. Dependent Variable: ConfrontScore

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19,863	3	6,621	4,338	,006 ^b
	Residual	233,511	153	1,526		
	Total	253,374	156			
2	Regression	60,723	6	10,121	7,880	<,001 ^c
	Residual	192,651	150	1,284		
	Total	253,374	156			
3	Regression	61,042	8	7,630	5,871	<,001 ^d
	Residual	192,332	148	1,300		
	Total	253,374	156			

a. Dependent Variable: ConfrontScore

b. Predictors: (Constant), Dummy_Gender, Hoelang gebruik je al mobiele gezondheidsapps?, Tot welke leeftijdsgroep behoort je?

c. Predictors: (Constant), Dummy_Gender, Hoelang gebruik je al mobiele gezondheidsapps?, Tot welke leeftijdsgroep behoort je?, Zscore(TFA_GEMIDDELD), dummy_neutraal, dummy_negatief

d. Predictors: (Constant), Dummy_Gender, Hoelang gebruik je al mobiele gezondheidsapps?, Tot welke leeftijdsgroep behoort je?, Zscore(TFA_GEMIDDELD), dummy_neutraal, dummy_negatief, Moderator_neutral_TFA, Moderator_negative_TFA

Coefficients^a

Model		Unstandardized Coefficients		Standardized	t	Sig.	95.0% Confidence Interval for B		Zero-order	Correlations		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound		Partial	Part	Tolerance	VIF
1	(Constant)	4,152	,308		13,549	<,001	3,547	4,758					
	Tot welke leeftijdsgroep behoort je?	-,118	,048	-,195	-2,468	,015	-,212	-,023	-,225	-,195	-,191	,961	1,041
	Hoelang gebruik je al mobiele gezondheidsapps?	-,016	,061	-,020	-,257	,797	-,136	,105	-,023	-,021	-,020	,979	1,022
	Dummy_Gender	,434	,202	,170	2,154	,033	,036	,832	,201	,172	,167	,962	1,040
2	(Constant)	4,388	,335		13,105	<,001	3,727	5,050					
	Tot welke leeftijdsgroep behoort je?	-,100	,044	-,165	-2,264	,026	-,187	-,012	-,225	-,181	-,161	,949	1,053
	Hoelang gebruik je al mobiele gezondheidsapps?	-,038	,057	-,049	-,878	,500	-,150	,074	-,023	-,055	-,048	,962	1,039
	Dummy_Gender	,502	,198	,197	2,693	,009	,134	,870	,201	,215	,192	,948	1,055
	dummy_negatief	-,291	,230	-,112	-1,265	,208	-,746	,164	-,148	-,103	-,090	,649	1,540
dummy_neutraal	-,363	,234	-,135	-1,552	,123	-,825	,099	,006	-,126	-,111	,675	1,481	
Zscore(TFA_GEMIDDELD)	,483	,094	,379	5,163	<,001	,298	,668	,386	,388	,368	,939	1,064	
3	(Constant)	4,379	,338		12,967	<,001	3,711	5,046					
	Tot welke leeftijdsgroep behoort je?	-,101	,047	-,167	-2,167	,032	-,193	-,009	-,225	-,175	-,165	,863	1,158
	Hoelang gebruik je al mobiele gezondheidsapps?	-,039	,057	-,049	-,878	,500	-,151	,074	-,023	-,055	-,048	,960	1,042
	Dummy_Gender	,510	,194	,200	2,631	,009	,127	,892	,201	,211	,188	,887	1,128
	dummy_negatief	-,282	,233	-,108	-1,210	,228	-,742	,178	-,148	-,099	-,087	,642	1,558
	dummy_neutraal	-,343	,236	-,127	-1,432	,154	-,815	,130	,006	-,117	-,103	,653	1,531
	Zscore(TFA_GEMIDDELD)	,548	,174	,428	3,137	,002	,202	,889	,386	,250	,225	,275	3,631
	Moderator_neutral_TFA	-,121	,245	-,049	-,493	,623	-,604	,363	,131	-,040	-,035	,510	1,962
Moderator_negative_TFA	-,069	,241	-,035	-,287	,775	-,546	,408	,340	-,024	-,021	,350	2,853	

a. Dependent Variable: ConfrontScore

Descriptive Statistics

	Mean	Std. Deviation	N
AvoidScore	2,9512	1,44119	157
Tot welke leeftijdsgroep behoort je?	2,90	2,109	157
Hoelang gebruik je al mobiele gezondheidsapps?	4,06	1,636	157
Dummy_Gender	,5350	,50037	157
dummy_negatief	,39	,489	157
dummy_neutraal	,33	,472	157
Zscore(TFA_GEMIDDELD)	,0000000	1,0000000	157
Moderator_neutral_TFA	,0608	,52272	157
Moderator_negative_TFA	-,1078	,63842	157

Correlations

		AvoidScore	Tot welke leeftijdsgroep behoort je?	Hoelang gebruik je al mobiele gezondheidsapps?	Dummy_Gender	dummy_negatief	dummy_neutraal	Zscore (TFA_GEMIDDELD)	Moderator_neutral_TFA	Moderator_negative_TFA
Pearson Correlation	AvoidScore	1,000	,291	-,046	-,015	,371	-,182	-,562	-,101	-,632
	Tot welke leeftijdsgroep behoort je?	,291	1,000	,097	-,164	,074	-,090	-,071	,074	-,301
	Hoelang gebruik je al mobiele gezondheidsapps?	-,046	,097	1,000	,091	-,071	-,052	,022	,018	-,023
	Dummy_Gender	-,015	-,164	,091	1,000	-,095	,059	-,057	-,109	,179
	dummy_negatief	,371	,074	-,071	-,095	1,000	-,561	-,222	-,593	-,213
	dummy_neutraal	-,182	-,090	-,052	,059	-,561	1,000	,130	,166	,119
	Zscore(TFA_GEMIDDELD)	-,562	-,071	,022	-,057	-,222	,130	1,000	,530	,657
	Moderator_neutral_TFA	-,101	,074	,018	-,109	-,093	,166	,530	1,000	,020
	Moderator_negative_TFA	-,632	-,301	-,023	,179	-,213	,119	,657	,020	1,000
	Sig. (1-tailed)	AvoidScore		<,001			<,001	,011	<,001	,104
Tot welke leeftijdsgroep behoort je?		,000		,114	,020	,180	,130	,190	,178	,300
Hoelang gebruik je al mobiele gezondheidsapps?		,293	,114		,129	,188	,257	,390	,411	,389
Dummy_Gender		,424	,020	,128		,118	,231	,238	,087	,013
dummy_negatief		,000	,180	,188	,118		,000	,003	,123	,004
dummy_neutraal		,011	,130	,257	,231	,000		,053	,018	,008
Zscore(TFA_GEMIDDELD)		,000	,190	,390	,239	,003	,053		,000	,000
Moderator_neutral_TFA		,104	,178	,411	,087	,123	,018	,000		,403
Moderator_negative_TFA		,000	,000	,389	,013	,004	,008	,000	,403	
N		AvoidScore	157	157	157	157	157	157	157	157
	Tot welke leeftijdsgroep behoort je?	157	157	157	157	157	157	157	157	157
	Hoelang gebruik je al mobiele gezondheidsapps?	157	157	157	157	157	157	157	157	157
	Dummy_Gender	157	157	157	157	157	157	157	157	157
	dummy_negatief	157	157	157	157	157	157	157	157	157
	dummy_neutraal	157	157	157	157	157	157	157	157	157
	Zscore(TFA_GEMIDDELD)	157	157	157	157	157	157	157	157	157
	Moderator_neutral_TFA	157	157	157	157	157	157	157	157	157
	Moderator_negative_TFA	157	157	157	157	157	157	157	157	157

Model Summary^d

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	,303 ^a	,092	,074	1,38674	,092	5,163	3	153	,002
2	,664 ^b	,440	,418	1,09945	,348	31,136	3	150	<,001
3	,722 ^c	,521	,495	1,02403	,081	12,454	2	148	<,001

a. Predictors: (Constant), Dummy_Gender, Hoelang gebruik je al mobiele gezondheidsapps?, Tot welke leeftijdsgroep behoort je?

b. Predictors: (Constant), Dummy_Gender, Hoelang gebruik je al mobiele gezondheidsapps?, Tot welke leeftijdsgroep behoort je?, Zscore(TFA_GEMIDDELD), dummy_neutraal, dummy_negatief

c. Predictors: (Constant), Dummy_Gender, Hoelang gebruik je al mobiele gezondheidsapps?, Tot welke leeftijdsgroep behoort je?, Zscore(TFA_GEMIDDELD), dummy_neutraal, dummy_negatief, Moderator_neutral_TFA, Moderator_negative_TFA

d. Dependent Variable: AvoidScore

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	29,788	3	9,929	5,163	,002 ^b
	Residual	294,226	153	1,923		
	Total	324,015	156			
2	Regression	142,697	6	23,783	19,675	<,001 ^c
	Residual	181,318	150	1,209		
	Total	324,015	156			
3	Regression	168,816	8	21,102	20,123	<,001 ^d
	Residual	155,199	148	1,049		
	Total	324,015	156			

a. Dependent Variable: AvoidScore

b. Predictors: (Constant), Dummy_Gender, Hoelang gebruik je al mobiele gezondheidsapps?, Tot welke leeftijdsgroep behoort je?

c. Predictors: (Constant), Dummy_Gender, Hoelang gebruik je al mobiele gezondheidsapps?, Tot welke leeftijdsgroep behoort je?, Zscore(TFA_GEMIDDELD), dummy_neutraal, dummy_negatief

d. Predictors: (Constant), Dummy_Gender, Hoelang gebruik je al mobiele gezondheidsapps?, Tot welke leeftijdsgroep behoort je?, Zscore(TFA_GEMIDDELD), dummy_neutraal, dummy_negatief, Moderator_neutral_TFA, Moderator_negative_TFA

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Zero-order	Correlations		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound		Partial	Part	Tolerance	VIF
1	(Constant)	2,565	,344		7,457	<,001	1,885	3,245					
	Tot welke leeftijdsgroep behoort je?	,209	,054	,306	3,887	<,001	,103	,315	,291	,300	,289	,961	1,041
	Hoelang gebruik je al mobiele gezondheidsapps?	-,070	,069	-,080	-1,022	,308	-,206	,065	-,046	-,092	-,079	,979	1,022
	Dummy_Gender	,121	,226	,042	,534	,594	-,326	,568	-,015	,043	,041	,962	1,040
2	(Constant)	2,190	,325		6,742	<,001	1,548	2,832					
	Tot welke leeftijdsgroep behoort je?	,170	,043	,249	3,971	<,001	,085	,255	,291	,308	,243	,949	1,053
	Hoelang gebruik je al mobiele gezondheidsapps?	-,034	,055	-,039	-,628	,531	-,143	,074	-,046	-,051	-,038	,962	1,039
	Dummy_Gender	,069	,191	,024	,363	,702	-,289	,426	-,015	,031	,023	,948	1,055
	dummy_negatief	,810	,223	,275	3,625	<,001	,369	1,251	,371	,284	,221	,649	1,540
dummy_neutraal	,167	,227	,055	,736	,463	-,281	,615	-,182	,060	,045	,675	1,481	
Zscore(TFA_GEMIDDELD)	-,704	,091	-,488	-7,750	<,001	-,883	-,524	-,562	-,535	-,473	,939	1,064	
3	(Constant)	2,268	,303		7,476	<,001	1,658	2,867					
	Tot welke leeftijdsgroep behoort je?	,111	,042	,162	2,641	,009	,028	,193	,291	,212	,160	,863	1,159
	Hoelang gebruik je al mobiele gezondheidsapps?	-,047	,051	-,054	-,927	,355	-,149	,054	-,046	-,076	-,053	,960	1,042
	Dummy_Gender	,266	,174	,092	1,528	,128	-,078	,610	-,015	,125	,087	,887	1,128
	dummy_negatief	,725	,209	,246	3,465	<,001	,312	1,139	,371	,274	,197	,642	1,558
	dummy_neutraal	,092	,215	,030	,430	,668	-,332	,517	-,182	,035	,024	,653	1,531
	Zscore(TFA_GEMIDDELD)	-,444	,156	-,308	-2,840	,005	-,752	-,135	-,562	-,227	-,162	,275	3,631
Moderator_neutral_TFA	,238	,220	,086	1,081	,281	-,197	,672	-,101	,089	,062	,610	1,962	
Moderator_negative_TFA	-,795	,217	-,352	-3,664	<,001	-1,224	-,366	-,632	-,288	-,208	,350	2,853	

a. Dependent Variable: AvoidScore

AC2 follow-up regression analysis to compare neutral vs negative

Model Summary ^d									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	,280 ^a	,078	,060	1,23540	,078	4,338	3	153	,006
2	,490 ^b	,240	,209	1,13329	,161	10,605	3	150	<,001
3	,491 ^c	,241	,200	1,13997	,001	,122	2	148	,885

a. Predictors: (Constant), Hoelang gebruik je al mobiele gezondheidsapps?, Met welke genderidentiteit identificeer je je het meest?, Tot welke leeftijdsgroep behoor je?

b. Predictors: (Constant), Hoelang gebruik je al mobiele gezondheidsapps?, Met welke genderidentiteit identificeer je je het meest?, Tot welke leeftijdsgroep behoor je?, Zscore(TFA_GEMIDDELD), Dummy_ambivalent, Dummy_negative2

c. Predictors: (Constant), Hoelang gebruik je al mobiele gezondheidsapps?, Met welke genderidentiteit identificeer je je het meest?, Tot welke leeftijdsgroep behoor je?, Zscore(TFA_GEMIDDELD), Dummy_ambivalent, Dummy_negative2, TFAxAmbivalent, TFAxNegative2

d. Dependent Variable: ConfrontScore

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19,863	3	6,621	4,338	,006 ^b
	Residual	233,511	153	1,526		
	Total	253,374	156			
2	Regression	60,723	6	10,121	7,880	<,001 ^c
	Residual	192,651	150	1,284		
	Total	253,374	156			
3	Regression	61,042	8	7,630	5,871	<,001 ^d
	Residual	192,332	148	1,300		
	Total	253,374	156			

a. Dependent Variable: ConfrontScore

b. Predictors: (Constant), Hoelang gebruik je al mobiele gezondheidsapps?, Met welke genderidentiteit identificeer je je het meest?, Tot welke leeftijdsgroep behoor je?

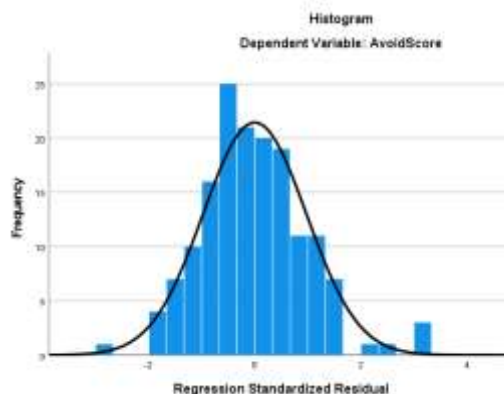
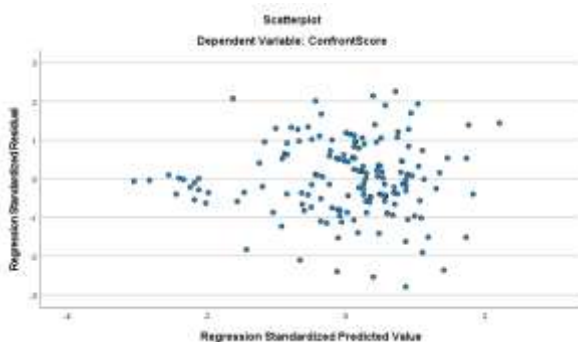
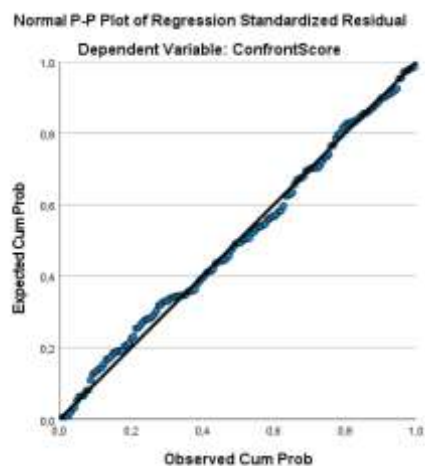
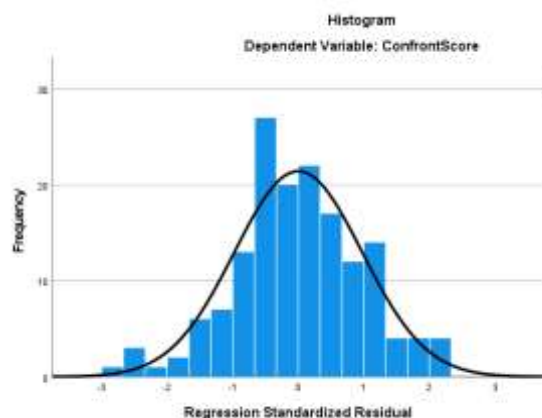
c. Predictors: (Constant), Hoelang gebruik je al mobiele gezondheidsapps?, Met welke genderidentiteit identificeer je je het meest?, Tot welke leeftijdsgroep behoor je?, Zscore(TFA_GEMIDDELD), Dummy_ambivalent, Dummy_negative2

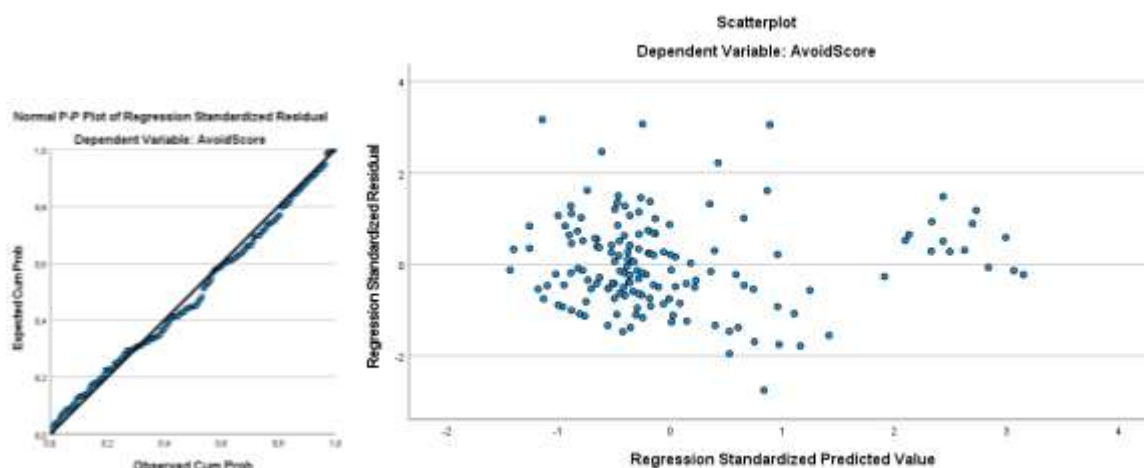
d. Predictors: (Constant), Hoelang gebruik je al mobiele gezondheidsapps?, Met welke genderidentiteit identificeer je je het meest?, Tot welke leeftijdsgroep behoor je?, Zscore(TFA_GEMIDDELD), Dummy_ambivalent, Dummy_negative2, TFAxAmbivalent, TFAxNegative2

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta				Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	3,718	,421			8,840	<,001	2,887	4,549					
	Tot welke leeftijdsgroep behoort je?	-,118	,048	-,195		-2,459	,015	-,212	-,023	-,225	-,195	-,191	,981	1,041
	Met welke genderidentiteit identificeer je je het meest?	,434	,202	,170		2,154	,033	,036	,832	,201	,172	,167	,982	1,040
	Hoe vaak gebruik je al mobiele gezondheidsapps?	-,016	,061	-,020		-,257	,797	-,136	,105	-,023	-,021	-,020	,979	1,022
2	(Constant)	3,886	,431			8,925	<,001	3,036	4,737					
	Tot welke leeftijdsgroep behoort je?	-,100	,044	-,165		-2,254	,026	-,187	-,012	-,225	-,181	-,181	,949	1,053
	Met welke genderidentiteit identificeer je je het meest?	,502	,188	,197		2,693	,008	,134	,870	,201	,215	,192	,948	1,055
	Hoe vaak gebruik je al mobiele gezondheidsapps?	-,038	,057	-,049		-,876	,500	-,150	,074	-,023	-,055	-,048	,962	1,039
	Zscore(TFA_GEWIDDELD)	,483	,094	,379		5,183	<,001	,298	,688	,388	,388	,398	,930	1,064
	Dummy_negative2	-,291	,230	-,112		-1,265	,208	-,746	,164	-,148	-,103	-,090	,649	1,540
Dummy_ambivalent	-,363	,234	-,135		-1,552	,123	-,825	,099	,006	-,126	-,111	,675	1,481	
3	(Constant)	3,869	,438			8,979	<,001	3,008	4,730					
	Tot welke leeftijdsgroep behoort je?	-,101	,047	-,167		-2,167	,032	-,193	-,009	-,225	-,175	-,155	,883	1,159
	Met welke genderidentiteit identificeer je je het meest?	,510	,194	,200		2,631	,009	,127	,892	,201	,211	,188	,887	1,128
	Hoe vaak gebruik je al mobiele gezondheidsapps?	-,039	,057	-,049		-,876	,500	-,151	,074	-,023	-,055	-,048	,960	1,042
	Zscore(TFA_GEWIDDELD)	,546	,174	,428		3,137	,002	,202	,889	,388	,250	,225	,275	3,631
	Dummy_negative3	-,282	,233	-,109		-1,210	,238	-,742	,178	-,148	-,099	-,087	,642	1,558
	Dummy_ambivalent	-,343	,228	-,127		-1,432	,154	-,815	,130	,006	-,117	-,103	,653	1,531
TFAAmbivalent	-,121	,245	-,049		-,493	,623	-,804	,363	,131	-,040	-,035	,510	1,962	
TFANegative2	-,059	,241	-,025		-,287	,775	-,546	,408	,340	-,024	-,021	,350	2,853	

a. Dependent Variable: ConfrontScore





Descriptive Statistics

	Mean	Std. Deviation	N
AvoidScore	2,9512	1,44119	157
Tot welke leeftijdsgroep behoort je?	2,90	2,109	157
Met welke genderidentiteit identificeer je je het meest?	1,54	,500	157
Hoelang gebruik je al mobiele gezondheidsapps?	4,06	1,636	157
Zscore(TFA_GEMIDDELD)	,0000000	1,00000000	157
Dummy_negative2	,3885	,48898	157
Dummy_ambivalent	,3312	,47215	157
TFAxAmbivalent	,0608	,52272	157
TFAxNegative2	-,1078	,63842	157

Model Summary^d

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	,303 ^a	,092	,074	1,38674	,092	5,163	3	153	,002
2	,664 ^b	,440	,418	1,09945	,348	31,136	3	150	<,001
3	,722 ^c	,521	,495	1,02403	,081	12,454	2	148	<,001

a. Predictors: (Constant), Hoelang gebruik je al mobiele gezondheidsapps?, Met welke genderidentiteit identificeer je je het meest?, Tot welke leeftijdsgroep behoor je?

b. Predictors: (Constant), Hoelang gebruik je al mobiele gezondheidsapps?, Met welke genderidentiteit identificeer je je het meest?, Tot welke leeftijdsgroep behoor je?, Zscore(TFA_GEMIDDELD), Dummy_ambivalent, Dummy_negative2

c. Predictors: (Constant), Hoelang gebruik je al mobiele gezondheidsapps?, Met welke genderidentiteit identificeer je je het meest?, Tot welke leeftijdsgroep behoor je?, Zscore(TFA_GEMIDDELD), Dummy_ambivalent, Dummy_negative2, TFAxAmbivalent, TFAxNegative2

d. Dependent Variable: AvoidScore

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	29,788	3	9,929	5,163	,002 ^b
	Residual	294,226	153	1,923		
	Total	324,015	156			
2	Regression	142,697	6	23,783	19,675	<,001 ^c
	Residual	181,318	150	1,209		
	Total	324,015	156			
3	Regression	168,816	8	21,102	20,123	<,001 ^d
	Residual	155,199	148	1,049		
	Total	324,015	156			

a. Dependent Variable: AvoidScore

b. Predictors: (Constant), Hoelang gebruik je al mobiele gezondheidsapps?, Met welke genderidentiteit identificeer je je het meest?, Tot welke leeftijdsgroep behoor je?

c. Predictors: (Constant), Hoelang gebruik je al mobiele gezondheidsapps?, Met welke genderidentiteit identificeer je je het meest?, Tot welke leeftijdsgroep behoor je?, Zscore(TFA_GEMIDDELD), Dummy_ambivalent, Dummy_negative2

d. Predictors: (Constant), Hoelang gebruik je al mobiele gezondheidsapps?, Met welke genderidentiteit identificeer je je het meest?, Tot welke leeftijdsgroep behoor je?, Zscore(TFA_GEMIDDELD), Dummy_ambivalent, Dummy_negative2, TFAxAmbivalent, TFAxNegative2

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta				Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	2,444	.472			5,177	<.001	1,512	3,377					
	Tot welke leeftijdsgroep behoort je?	,209	.054	.306		3,887	<.001	.103	.315	.291	.300	.299	.961	1.041
	Met welke genderidentiteit identificeer je je het meest?	,121	.226	.042		.534	.594	-.326	.568	-.015	.043	.041	.962	1.040
	Hoe vaak gebruik je al mobiele gezondheidsapps?	-.070	.069	-.080		-1,022	.308	-.206	.065	-.046	-.082	-.079	.979	1.022
2	(Constant)	2,121	.418			5,076	<.001	1,295	2,946					
	Tot welke leeftijdsgroep behoort je?	,170	.043	.249		3,971	<.001	.085	.255	.291	.308	.243	.949	1.053
	Met welke genderidentiteit identificeer je je het meest?	,069	.181	.024		.383	.702	-.288	.436	-.015	.031	.023	.948	1.055
	Hoe vaak gebruik je al mobiele gezondheidsapps?	-.034	.055	-.039		-.828	.531	-.143	.074	-.048	-.051	-.038	.962	1.039
	Zscore(TFA_GEWIJDELD)	-.704	.091	-.488		-7,750	<.001	-.883	-.524	-.562	-.535	-.473	.930	1.064
	Dummy_negatief2	,810	.223	.275		3,625	<.001	.368	1,251	.371	.284	.221	.649	1.540
	Dummy_ambivalent	,167	.227	.055		.736	.463	-.281	.615	-.182	.060	.045	.675	1.481
3	(Constant)	2,002	.391			5,114	<.001	1,228	2,775					
	Tot welke leeftijdsgroep behoort je?	,111	.042	.162		2,641	.009	.029	.193	.291	.212	.150	.883	1.159
	Met welke genderidentiteit identificeer je je het meest?	-.266	.174	-.092		-1,529	.138	-.078	.610	-.015	.125	.087	.887	1.128
	Hoe vaak gebruik je al mobiele gezondheidsapps?	-.047	.051	-.054		-.927	.355	-.149	.054	-.048	-.076	-.053	.960	1.042
	Zscore(TFA_GEWIJDELD)	-.444	.156	-.308		-2,840	.005	-.752	-.135	-.562	-.227	-.162	.275	3.631
	Dummy_negatief3	,725	.209	.248		3,466	<.001	.312	1,139	.371	.274	.197	.642	1.558
	Dummy_ambivalent	,092	.215	.030		.430	.668	-.332	.517	-.182	.035	.024	.653	1.531
TFAAnvalam1	-.238	.220	-.086		-1,081	.281	-.197	.672	-.101	.080	.062	.510	1.962	
TFAchegatie2	-.785	.217	-.352		-3,604	<.001	-1,224	-.366	-.632	-.288	-.208	.350	2.853	

a. Dependent Variable: AvoidScore

Additional analysis

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.
		B	Std. Error	Beta			
1	(Constant)	4,069	.215			18,796	<.001
	dummy_negatief	-.494	.243	-.190		-2,037	.043
	dummy_neutraal	-.343	.251	-.127		-1,366	.174
	Dummy_Gender	.402	.199	.198		2,019	.045
	Zscore: Tot welke leeftijdsgroep behoort je?	-.250	.100	-.196		-2,511	.013
2	(Constant)	4,493	.269			16,678	<.001
	dummy_negatief	-1,211	.340	-.465		-3,566	<.001
	dummy_neutraal	-.587	.365	-.217		-1,610	.110
	Dummy_Gender	-.347	.361	-.136		-.963	.337
	Zscore: Tot welke leeftijdsgroep behoort je?	-.154	.182	-.121		-.842	.401
	Intr_Neg_Age	-.394	.228	-.212		-1,731	.088
	Intr_Neut_Age	.345	.259	.137		1,335	.184
	Intr_Neut_Gend	.538	.485	.166		1,107	.270
	Intr_Neg_Gend	1,423	.469	.435		3,038	.003

a. Dependent Variable: ConfrontScore

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.
		B	Std. Error	Beta			
1	(Constant)	2,348	.229			10,246	<.001
	dummy_negatief	1,148	.257	.389		4,470	<.001
	dummy_neutraal	.177	.266	.058		.667	.506
	Dummy_Gender	.184	.211	.064		.873	.384
	Zscore: Tot welke leeftijdsgroep behoort je?	.401	.105	.278		3,801	<.001
2	(Constant)	2,134	.286			7,460	<.001
	dummy_negatief	1,347	.361	.457		3,735	<.001
	dummy_neutraal	.495	.387	.162		1,278	.203
	Dummy_Gender	.577	.383	.200		1,507	.134
	Zscore: Tot welke leeftijdsgroep behoort je?	-.009	.194	-.006		-.046	.963
	Intr_Neg_Age	.878	.242	.418		3,629	<.001
	Intr_Neut_Age	.010	.275	.004		.037	.970
	Intr_Neut_Gend	-.562	.515	-.181		-1,285	.201
	Intr_Neg_Gend	-.453	.498	-.122		-.909	.365

a. Dependent Variable: AvoidScore

Coefficients^a

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients Beta		
1	(Constant)	2,525	,216		11,690	<,001
	dummy_negatief	,971	,246	,329	3,945	<,001
	Dummy_Ambivalenc	-,177	,266	-,055	-,667	,506
	Zscore: Tot welke leeftijdsgroep behoort je?	,401	,105	,278	3,801	<,001
	Dummy_Gender	,184	,211	,064	,873	,384
	2	(Constant)	2,629	,261		10,079
dummy_negatief	,852	,341	,289	2,500	,014	
Dummy_Ambivalenc	-,495	,387	-,155	-,127	,203	
Zscore: Tot welke leeftijdsgroep behoort je?	,001	,196	,001	,006	,995	
Dummy_Gender	-,084	,344	-,028	-,245	,807	
Inter_ambiv_age	-,010	,275	-,004	-,037	,970	
Inter_ambiv_gend	,662	,515	,189	1,285	,201	
Inter_neg_gend	,209	,468	,056	,446	,656	
Inter_neg_age	,868	,244	,413	3,563	<,001	

a. Dependent Variable: AvoidScore

Coefficients^a

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients Beta		
1	(Constant)	3,726	,204		18,260	<,001
	dummy_negatief	-,151	,232	-,058	-,651	,516
	Dummy_Ambivalenc	,343	,251	,121	1,366	,174
	Zscore: Tot welke leeftijdsgroep behoort je?	-,250	,100	-,196	-,251	,013
	Dummy_Gender	,402	,199	,158	2,019	,045
	2	(Constant)	3,906	,246		15,906
dummy_negatief	-,624	,321	-,239	-,1,944	,054	
Dummy_Ambivalenc	,587	,365	,207	1,610	,110	
Zscore: Tot welke leeftijdsgroep behoort je?	,193	,184	,151	1,045	,298	
Dummy_Gender	,189	,324	,074	,584	,560	
Inter_ambiv_age	-,346	,259	-,141	-,1,335	,184	
Inter_ambiv_gend	-,536	,485	-,154	-,1,107	,270	
Inter_neg_gend	,887	,441	,271	2,012	,046	
Inter_neg_age	-,740	,229	-,399	-,3,229	,002	

a. Dependent Variable: ConfrontScore