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Abstract

When making important decisions, people often consult the advice of others. Research has shown that the integration of advice in the final decision ultimately improves decision accuracy. However, it was also found that the extent to which decision-makers use this received advice varies depending on several influential factors; one of them is incidental, i.e., decision unrelated emotions. Intending to identify a moderating factor that weakens the unwanted effect of emotions on advice taking, this study has analyzed the advice taking behavior of people in three different emotional conditions (gratitude, neutral, and anger) while simultaneously measuring their emotional intelligence. It was assumed that people high in emotional intelligence could detach the experienced emotion from the decision at hand better that people low in emotional intelligence. This study proposed that a person's emotional intelligence moderates the effect of emotions on advice taking, i.e., that the first-mentioned show less extreme advice taking behavior than the last-mentioned. An experimental study with 152 participants was conducted via the crowd-sourcing platform MTurk. The analysis of the collected primary data could not identify the decision-maker's emotional intelligence as a moderator in the relationship between incidental emotions and advice taking. This study concludes with a critical analysis of the methodology used and the submission of future research ideas.

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1 Introduction

People make numerous decisions every day. While some of them, especially in the daily personal context, seem trivial, others, often related to the work context, can have far-reaching consequences. Research has found that the decision accuracy of a judge can be improved through the integration of advice given by an advisor (Armstrong, 2001; Larrick & Soll, 2006; Soll & Larrick, 2009; Yaniv, 1997). However, research also shows that people tend to discount the advice of others (Bonaccio & Dalal, 2006; Gino et al., 2012; Gino & Moore, 2007; Harvey & Fischer, 1997; Yaniv, 2004b). They overrate the quality of their judgment compared to those of others. This phenomenon is called Egocentric Advice Discounting (Yaniv, 2004a; Yaniv & Kleinberger, 2000) and can be explained by the fact that decision-makers have access to their decision reasoning but not to that of the advisor (Yaniv, 2004a; Yaniv & Kleinberger, 2000). While they know what information they base their decision on, the choice of the advisor could potentially be random and without any decision-making-basis.

How much the decision-maker utilizes or discounts given advice depends on several factors. Researchers over the last three decades have studied these factors. One field of research has dedicated its resources towards the exploration of the effect of different emotions on advice taking. Studies have found evidence for a significant influence of incidental (decision unrelated) emotions on advice taking (De Hooge et al., 2014; Gino et al., 2012; Gino & Schweitzer, 2008). These findings show that emotions hinder people from making rational decisions. Individuals, as well as companies, might even use incidental emotions to systematically manipulate an individual's decision-making process to their favor, which is why it becomes crucial to understand and manage one's emotions. This ability is called emotional intelligence (hereafter referred to as EI). It expresses to what extent a decision-maker is aware of an emotionally loaded situation and can factor out these emotions when making a decision (Salovey & Mayer, 1990). High levels of EI are often associated with outcomes that are perceived positively by the general public, which explains why EI is increasingly used as a predictor in personnel selection (Van Rooy et al., 2005). Focusing on the field of decision-making, Yip & Côté (2012) investigated the effect of a high and low emotion-understanding ability on people's risk-taking behavior under positive and negative emotions. Emotion-understanding ability is a component of EI following the definition of

Mayer and Salovey (1997). They found that emotion-understanding ability moderated the effects of emotions on risk-taking.

While the effects of different emotions on advice taking have been studied in the past, no prior work has investigated how different levels of EI influence the impact of emotions on advice taking. This study suggests that different levels of EI moderate the effect of positive as well as negative emotions on advice taking as the decision-maker with a high level of EI is aware of the emotionally loaded situation and can factor out this influence in the decision at hand. By gathering primary data through an experimental study on the crowdsourcing platform MTurk and the thorough statistical analysis of that data, this proposition will be tested.

The following chapter will summarize the relevant literature and studies on advice taking, the influence of emotions on advice taking, and on EI. Subsequently, the applied methodology to gather the data for this study will be explained, followed by the statistical analysis of the data. Results will ultimately be discussed and practical implications as well as research limitations and future research suggestions, will be explained.

2 Literature Review

This chapter will give an overview of the current state of research on advice taking, the influence of different emotions on advice taking, and the role of EI in decision making. Based on the cited literature, this chapter will conclude by identifying the current research gap from which the research question for this study was developed.

2.1 Advice Taking

Researchers have been studying the field of advice-giving and taking for more than three decades (see Brehmer & Hagafors, 1986, for the first published paper). Due to the relatively short existence of the research topic and the variety of influencing factors, a general theoretical framework that comprehensively conceptualizes the research problem has not been developed yet (Bonaccio & Dalal, 2006). However, numerous studies investigating the influence of different factors on the utilization of advice have been conducted that will be summarized in the following.

As already mentioned in the introduction, the incorporation of advice into one's decision improves the decision accuracy (Armstrong, 2001; Larrick & Soll, 2006; Soll & Larrick, 2009; Yaniv, 1997). The improvement of decision accuracy is because advisors bring in new information that has not been considered by the judge before (Heath & Gonzales, 1995) and encourage to think of the question at hand in a different way (Schotter, 2003). Druckman (2001) further points out that taking into account the advice of someone else reduces framing effects that might arise from the formulation of the task at hand (Tversky & Kahneman, 1981). Besides the positive impact on the decision quality itself, advice utilization, in theory, splits the decision outcome accountability into at least two people, which is why decision-makers tend to use advice for more critical decisions (Harvey & Fischer, 1997). Moreover, some researchers found that there is a social aspect to the utilization of advice. Sniezek & Buckley (1995) experimented with two advisors, and results showed that the conformity of advisors was a stronger persuader for the decision-maker than the confidence level of the advisors. The majority consensus thus seems to play a role in the utilization of advice in groups. Another experiment by Harvey & Fischer (1997) provided decision-makers with three different levels of training and found that all

groups incorporated advice of others, independent of whether they were novice, semi-experienced or experienced. The researchers argued that a social pressure to take advice that is freely offered to someone plays a role in this case. Decision-makers might be afraid that advice will not be provided again if they rejected it.

The rational consequence would thus be to incorporate the advice given by 50%. Soll & Larrick (2009) came to the result that averaging both estimates, which corresponds to the incorporation of advice by 50%, is the most successful strategy in terms of final decision accuracy. The studies show that advice utilization has positive effects on decision quality, accountability, and social relations. However, research has found that decision-makers tend to discount the advice of others (Bonaccio & Dalal, 2006; Gino et al., 2012; Gino & Moore, 2007; Harvey & Fischer, 1997; Yaniv, 2004b). Harvey & Fischer (1997) found that decision-makers shift their estimate only about 20% - 30% towards the advice given to them. More present research from Gino & Schweitzer (2008) supports this finding. In their study, they found that participants in a neutral emotional state, on average, shifted their final estimate 27% towards the advice. By referring to the anchoring theory of Tversky & Kahneman (1974), some researchers are trying to explain this phenomenon and argue that the initial judgment of the decision-maker serves as a reference point that given advice will be rated against (Harvey & Fischer, 1997; Lim & O'Connor, 1995). The limited access to the advisor's information base might be another explanation for the discounting of advice (Yaniv, 2004a; Yaniv & Kleinberger, 2000). Decision-makers overrate the quality of their own skills and judgments compared to that of others.

Researchers have been studying different factors that might positively or negatively impact the basic amount of advice taking of 20% - 30% and thus lead to more or even less advice utilization by the decision-maker. Before the findings from these studies are presented and summarized, the JAS-System, which has been used as an experimental paradigm in most studies on advice taking, will be introduced.

2.1.1 The JAS-System

The judge-advisor system was introduced by Sniezek & Buckley (1995) and has since been used as an experimental paradigm by several researchers to study the degree to which decision-makers use the advice of others. In this paradigm, the decision-maker is the *judge*, while the person giving the advice is the *advisor* (Bonaccio & Dalal, 2006). Participants in a lab experiment are randomly assigned to one

of these roles. Depending on the research, also multiple advisors can exist (see Sniezek & Buckley, 1995). The task at hand might be a choice task or a quantitative judgment task. In both cases, the judge has to provide his initial choice or quantitative judgment regarding a task from a common knowledge field (Rader et al., 2017). Some studies also look at the difference between intellective tasks for which a correct answer does exist (e.g., mathematical task) and judgmental tasks for which no correct answer exists (e.g., forecasting the sales of a new product) (Van Swol, 2011; Van Swol & Sniezek, 2005). After the judge received the advice of the advisor, he can adjust his initial answer and has to provide a final choice or judgment. In the traditional set-up, judges cannot choose to receive advice or not, but it is given to them by default. However, some studies let the judge decide whether they want to receive advice or not (Gardner & Berry, 1995; Schrah et al., 2006).

This prototypical experimental set-up, which can be understood as the basic frame of all empirical studies in the field of advice taking, gets modified by researchers depending on the purpose of the study. While in many studies, the advice given is the choice or judgment of another participant taking part in the experiment, other studies only purport that it's the advice of another participant. In this case, the computer generates the given advice and states the correct answer (see Gino & Schweitzer, 2008).

The next chapter will look at the current literature on advice taking and will summarize the findings on what variables cause decision-makers to utilize or discount advice beyond the 20% - 30% advice utilization that is the identified basic amount of general advice utilization.

2.1.2 Variables Influencing Advice Taking

As mentioned before, advice taking is a relatively new field of research. Nevertheless, a considerable amount of studies has investigated what factors lead participants to use more or less advice than the token amount that is considered 'normal.' In the following, findings from studies investigating the influence of advisor's and judge's expertise, confidence, similarity, and sex, as well as variables concerning the task at hand and advice cost on advice taking, will be introduced.

2.1.2.1 Expertise

One factor that was found to influence advice taking is the level of expertise of the judge as well as the perceived level of expertise of the advisor.

Sniezek & Van Swol (2001) found that judges with lower levels of expertise (measured by pretest on computer knowledge) accepted more of the advice given to them and that their confidence and trust towards the advisor mediated this relationship. Sniezek et al. (2004) investigated the influence of the actual level of expertise of the advisor on advice taking and concluded that judges accept more advice from advisors more experienced than themselves. Harvey & Fischer (1997) further found that the amount of utilized advice was related to the difference in experience between judge and advisor. Similar results were presented by Goldsmith & Fitch (1997) and Feng & MacGeorge (2006), even though in their studies, the difference in advice taking was only based on the perceived level of expertise and not the actual one.

All presented studies show that not just the actual but more importantly, the perceived level of expertise of the advisor relative to one of the judge positively influences the amount of advice taking.

2.1.2.2 Confidence

Other researchers have investigated the influence of the expressed level of confidence of the judge and the advisor on advice taking.

Sniezek & Buckley (1995) mentioned that decision-makers might perceive high advisor confidence as an indicator for the advisor's expertise, which, however, can be misleading. They found that in a JAS System with two advisors, judges tended to take the advice of those judges who indicated higher confidence in their judgment. In a JAS System with only one advisor Sniezek & Van Swol (2001), Van Swol & Sniezek (2005) and Van Swol (2011) investigated that judges consider the advisor's recommendation more when they state higher levels of confidence. Bonaccio & Dalal (2006), however, warn that extremely high confidence levels close to 100% may be perceived as imprudence and thus be disregarded.

Gino & Moore (2007) investigated the role of the judge's confidence in advice taking in easy and challenging tasks and found that advice utilization was lower among the treatment group with the less challenging task. The judge's confidence mediated this effect. See et al. (2011) also identified confidence as a mediator in their study. They investigated the influence of power on advice taking and found that greater power was associated with greater confidence and less advice taking. Further evidence for the negative impact of the judge's confidence on advice taking was found by Kausel et al. (2015),

who investigated the influence of narcissism on advice taking. In their study, narcissism predicted overconfidence, which led people to think that their estimate is better than that of others, which in turn made them utilize considerably less advice.

In an uncertain environment as a decision-making context, confidence, be it the confidence of the judges or of the advisor, seems to symbolize power in the form of trust in one's own or others' judgment and thus decides over which decision will be weighted heavier.

2.1.2.3 Sex

Findings on the higher susceptibility to persuasion for women (Becker, 1986) and the higher valuation of social harmony (Eagly & Wood, 1985) made researchers investigate gender differences in advice taking. Findings for this variable are, however, inconsistent.

See et al. (2011), as one of the few studies in the field of advice taking, did not use a classical JAS system as their experimental set-up. Instead, they let coworkers assess their colleague's usual advice taking behavior. They found that women were rated by their coworker to utilize significantly more advice than their male counterparts while controlling for perceptions of being a good leader in order to factor out halo effects. However, the applied methodology might still be biased as it is based on people's memory of situations in which the colleague did or did not accept advice. Their perception is likely to be influenced due to extreme events. In another study, Feng & MacGeorge (2006) found that women were more receptive to given advice than men. When other predictors such as expertise, closeness, and expressivity were also taken into account, this effect was, however, no longer significant.

Research on the role of the judge's sex on advice taking has shown, that women in general take more advice than men. However, contradicting findings regarding its significance exist. Therefore, the role of the judge's sex on advice taking should be further investigated.

2.1.2.4 Judge and Advisor Similarity

Another field of research has dedicated its resources towards the exploration of the influence of judge and advisor actual and perceived similarity on advice taking.

Van Swol (2011) investigated advice taking for intellective tasks (correct answer does exist e.g., mathematical task) and judgmental task (no correct answer exists, e.g. forecasting the sales of a new product). They found that the judge's perception of sharing similar values with the advisor was a

significant predictor for advice taking in judgmental tasks and that trust mediated this relationship. Gino et al. (2009) manipulated similarity between judge and advisor in their experiment and faked surface-level similarity (e.g., demographics) and found that for questions concerning their behavior, judges used the advice of seemingly similar advisors more than that of seemingly dissimilar advisors. Judges extrapolated from surface-level similarity to deep-level similarity (values, attitudes, opinions).

The summarized studies present evidence for what already seems naturally reasonable to most people as such that judges utilize advice from advisors they perceive as similar to themselves more than that from advisors dissimilar to themselves.

2.1.2.5 Task-related variables

The examined variables expertise, confidence, sex, and similarity of the judge and the advisor are all variables concerned with the two people involved in the JAS system. Other studies have, however, looked at the influence of different task characteristics on advice taking.

One factor that was found to influence the degree of advice taking by the judge is the task complexity/difficulty. Schrah et al. (2006) experimented with different task complexities and ascertained that increased task complexity led to higher conformity with the advisor's recommendation in the judge's final decision. Even though Gino and Moore did assess task difficulty instead of task complexity, they came to a comparable result as such judges used the advice of an advisor more when the task was difficult compared to when it was easy. They found that advice was underweighted when the task was easy.

Van Swol (2011) compared the advice taking behavior of judges for an intellective task (correct answer does exist) and a judgmental task (correct answer does not exist). The results showed that judges accepted advice more often for intellective tasks. The researcher argued that this was because the main aim of advice utilization would be to improve the final decision accuracy. Since no correct answer exists to judgmental tasks, judges are less likely to consider advice for this kind of question.

2.1.2.6 Cost of advice

After having looked at studies investigating variables concerned with the judge and the advisor as well as studies related to the task at hand, the following three studies have investigated the influence of the cost of advice on advice taking.

In the experiment of Sniezek et al. (2004), judges had the chance to allocate money to expert or novice advice. Results showed that paying for expert advice significantly increased advice utilization. This effect was neither found for novice advice nor free advice. The researchers explained this phenomenon by referring to the research on price as a signal of quality literature (Erickson & Johansson, 1985). Paid advice is thus perceived as being of higher quality. The same results were found by Gino (2008), who compared advice taking after paid advice with advice taking after free advice. In a further study by Gino (2008), it was tried to exclude the price-quality perception by pointing out to the judges that advice, regardless of whether it was free or paid for, was of the same quality. However, the judges in the high-cost-advice condition still utilized advice significantly more than judges in the low-cost-advice and free-advice condition. This finding was explained by the sunk-cost effect, which lets people pursue an aim more strongly the more they had invested effort, time and money (Arkes & Blumer, 1985, p.124).

The advisor's and judge's expertise, confidence, similarity, and sex, as well as variables concerning the task at hand and advice cost, have been studied by researchers in the past. While for most, a significant effect on advice taking was found, findings on the influence of the judge's sex on advice taking are inconsistent. One of the aspects that researchers have only recently shown interest in is emotions and their impact on advice taking. The next chapter will give an overview of the emergence of this field of research and will present the main findings.

2.2 Emotions in Advice Taking

For a long time, the dominant belief in decision-making research was, that decision-makers unconsciously or consciously use the utility-maximizing function (UE) developed by Von Neumann & Morgenstern (1944) to arrive at a decision. Researchers explained the decision making as a rational cognitive process, at which end the decision-maker chooses the option which is expected to bring the maximum utility. As advice taking belongs to the field of decision making, this was true for the former as well. Tversky & Kahneman (1974), however, revolutionized this way of thinking about people's decisions and implemented the behavioral decision theory, which considers that people do not always behave rationally but that they make cognitive errors and use simplifying heuristics for complex

decisions. This new decision theory led to the investigation of several variables and their influence on advice taking, which were presented earlier. The role of emotions in many different fields of decision making as risk-taking, consumption, negotiations, justice, and cooperation was studied since (e.g., De Hooge et al., 2008; Lerner & Keltner, 2001; Loewenstein, 1996; Skoe et al., 2002). However, the influence of emotions on advice taking did until lately not receive any attention (see Bonaccio & Dalal, 2006; not mentioned in this extensive research paper).

By today, only three papers have looked at the influence of different emotions on advice taking. Before the studies by Gino & Schweitzer (2008), who were the first ones to address this new field of research, Gino et al. (2012) and De Hooge et al. (2014) will be introduced, an important differentiation between two forms of emotions will be emphasized.

2.2.1 Integral and Incidental Emotions

The literature distinguishes between two forms of emotions; *integral* and *incidental* emotions (Loewenstein & Lerner, 2003). People might experience certain emotions because of the decision problem itself when the consequences of the decision can be affect-rich as when for example, someone is asked to decide whether to put his or her parents into a nursing home. These emotions are called *integral* emotions. Emotions that are, however, unrelated to the decision problem and triggered by an earlier event are called *incidental* emotions. Even though *incidental* emotions that are also called exogenous emotions should theoretically not influence a decision, researchers have found evidence for it (De Hooge et al., 2014; Gino et al., 2012; Gino & Schweitzer, 2008).

2.2.2 Effects of Positive and Negative Emotions on Advice Taking

Gino & Schweitzer (2008) conducted two experimental studies with US university students in which they investigated the effect of the positive emotion gratitude and the negative emotion anger on advice taking. Participants had to estimate the weight of different people on pictures, after which they saw a short video clip, which was supposed to induce anger, gratitude, or neutral feelings. The video clip depended on the condition, to which the participant was randomly assigned. After the video clip, participants were asked to reflect on the video they saw in writing to make them relate to the situation. Following this emotional priming task, participants were allegedly shown the estimate of another participant, which, however, in fact, was the true weight of the person plus-minus two to ten pounds.

After that, they had to enter their final estimate for the person's weight. In order to check whether the emotional priming task was successful, participants were requested to think back to the video they saw and the writing task they did and indicate to what extent this made them feel 19 different emotions. The statistical analysis of the data showed that the priming task was successful and that participants in the gratitude condition used significantly more advice than participants in the anger condition. Advice taking was measured by the *weight of advice* (WOA), which is a standard measure of advice taking that will be explained in the course of this study.

In their second study, Gino and Schweitzer further wanted to investigate whether trust works as a mediator in the relationship between emotions and advice taking. In addition to the experimental set-up of the first study, participants were thus asked to indicate to what extent they agreed with adapted statements from a trust inventory by Johnson-George & Swap (1982). Results showed that participants in the gratitude condition were more trusting and utilized more advice compared to participants in the neutral condition and that participants in the anger condition were less trusting and used less advice than participants in the neutral condition.

Gino & Schweitzer (2008) also studied the final decision accuracy and found that it was significantly higher in the gratitude condition than in the neutral and the anger condition. Results showed that differences in decision accuracy correlated with differences in advice utilization. However, it is questionable whether measuring final decision accuracy is useful. In the study by Gino & Schweitzer, advice given to the participant was manipulated and always close to the actual value. In this case, more utilization of advice ultimately leads to better advice accuracy, assuming that there is no significant difference in initial estimates between conditions.

Another set of studies on advice taking was conducted by Gino et al. (2012), who investigated the influence of incidental state anxiety on advice seeking and advice taking. As in the study by Gino & Schweitzer (2008), a short video clip was used as an emotional priming task only that this time it was inducing anxiety. It was found that participants experiencing incidental state anxiety are more likely to seek and utilize advice than participants in a neutral emotional state. Again advice utilization was tested with a weight estimation task and measured by the WOA ratio, whereas advice seeking was reported by

1 – seeking advice, 0 – not seeking advice. Moreover, it was found that the confidence of the advisor mediated the effect of incidental state anxiety on advice seeking and advice taking, such that anxiety lowered self-confidence, which again made participants rely more heavily on advice.

The researchers further compared findings on the influence of incidental state anxiety on advice taking with results on incidental anger on advice taking and found that although the valence of the two emotions is the same (negative emotion), their effect on advice taking was different. As it was already shown in Gino & Schweitzer (2008) and proven in this study, incidental anger negatively influenced advice taking while incidental state anxiety positively influenced advice taking. The researchers, as a result of this, showed that findings on the influence of incidental state anxiety on advice taking could not be generalized across negative emotions.

The latest and probably most revealing paper on the influence of emotions of advice taking was published by De Hooge et al. (2014). Compared to previous studies in this research field, this study took into account the social aspect of advice taking and added the agency component to it by contrasting self- and other-focused positive and negative emotions. Besides studying specific emotions, they also found that the framework for positive and negative self- and other-focused emotions could be generalized beyond the studied emotions.

In the first study, the researchers studied the positive other-focused emotion gratitude and the negative other-focused emotion anger. They found, just like Gino & Schweitzer (2008), that participants in the gratitude condition utilized significantly more advice than participants in the anger condition. Different from the previous studies, the task at hand was a choice task, and advice was measured with a choice continuum where participants had to indicate on a scale from 0 to 100 to what option they prone to after having seen the choice of the advisor. To prime the two emotional conditions, participants were asked to complete a relatively difficult multiple-choice question (gratitude condition) and a reasonably easy arithmetic question (anger condition) to win a 25$ bonus. They saw the answers of the other participants, and one answer got supposedly randomly selected as the group's answer. In the gratitude condition, the computer was programmed in a way that it always chose the correct answer, while in the anger condition, it always chose a wrong answer. To prevent participants from focusing too much on

their emotions, the manipulation check for this emotional priming task was conducted in a separate pilot study. Results showed that emotional priming was successful, such that participants in the anger condition reported higher feelings of anger than all other emotions, and participants in the gratitude condition reported higher feelings of gratitude than all other emotions. Moreover, they indicated that they thought others were responsible for the outcome, which shows that the emotions were other-focused.

In the second study, the positive self-focused emotion pride and the negative self-focused emotion shame were studied. Results showed that advice taking was higher in the shame condition than in the pride condition. Advice taking was measured in the same way as in study one. For the emotional priming, participants were allegedly grouped with two other participants and had to conduct an intelligence test separately. The results were after that shown to everyone. Computers were manipulated such that participants in the shame condition saw that their score was "insufficient." In contrast, the score of the others was "(highly) sufficient." Participants in the pride condition saw that their score was "(highly) sufficient," whereas the score of the others was "insufficient."

Regarding the measurement of the advice taking used in both studies, it should be mentioned that the choice continuum does not take into account the decision-maker's initial choice. It could be that it coincides with the choice of the advisor and thus would have been chosen anyway. In this case, the choice continuum indicates a high score for advice taking, which, however, can be misleading when advice taking is seen as a measure for how much the decision-maker revised their initial choice in favor of the advisor's choice.

This thought might have been the reason for another study of De Hooge et al. (2014). In their third experiment, participants had to complete a judgment task, where advice taking could ultimately be measured using the WOA ratio and thus considering the initial judgment of the decision-maker as well. Results were mirroring results from studies one and two. In a fourth experiment, they did not prime participants on specific emotions but asked them to remember a situation in which they felt positive or negative about themselves or others. The results showed that findings on self- and other-focused emotions could be generalized beyond the four specific emotions anger, gratitude, shame, and pride. In their final experiment, they moreover manipulated the agency of the widely studied emotion anger and

contrasted self-focused anger with other-focused anger. Advice taking was higher in the self-focused anger condition than in the other focused anger condition. This finding shows that the same emotion can have different effects on advice taking depending on whether it is self- or other-focused.

The studied emotions from the three presented papers and their influence on advice taking are summarized and depicted in Figure 1. Anger and gratitude are the two emotions that have received attention by almost all papers and are thus the once most studied. Furthermore, it can be said that all experiments which looked at advice taking for judgmental tasks used the WOA ratio as a measure of advice taking. The priming tasks used to induce different incidental emotions were, however, manifold.

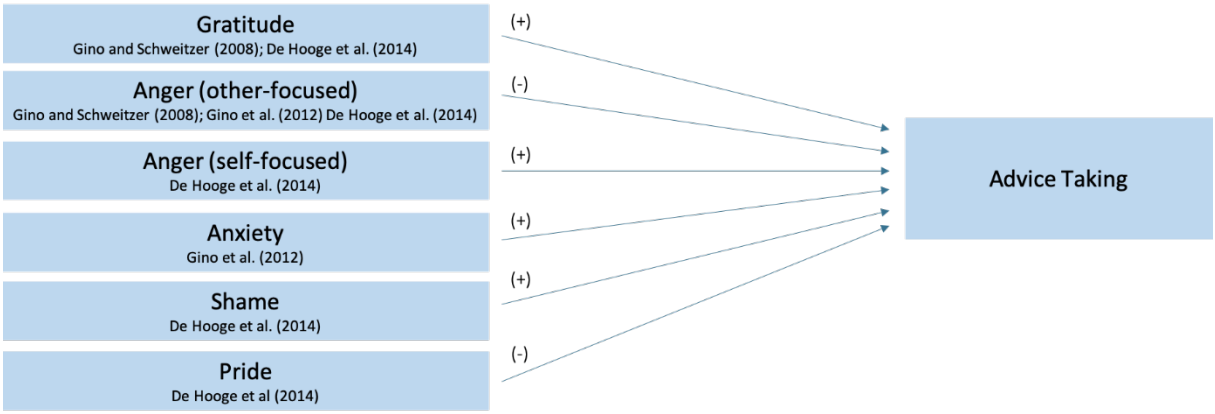

Figure 1: Summary of effects on Advice Taking

Gino & Schweitzer (2008, p. 20, l. 5) raise the concern in their paper that because of the influence of emotions "[…] people might overweight bad advice or underweight good advice." Depending on the decision context, this might have far-reaching consequences. Especially when thinking about the business context, the ideal condition is that employees take advice on a rational basis and withstand the influencing power of incidental emotions. This ability could potentially be described by the concept of EI (Salovey & Mayer, 1990), such that people high in EI recognize that they are influenced by an incidental emotion and can thus factor it out in their decision making. The effect of emotions on advice taking should, therefore, be moderated by the level of EI of the decision-maker. The next chapter will give an overview of the concept of EI as well as its components, will discuss different ways to measure or assess EI, and will present some empirical evidence on the moderating role of EI in decision-making.

2.3 Emotional Intelligence

The concept of EI was first introduced by Salovey & Mayer (1990) as a subset of social intelligence. They defined EI as "the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions" (Salovey & Mayer, 1990, p. 189, ll. 5). Mayer & Salovey (1997) revised their initial view on EI a few years later and developed the four-branch model of EI. This model encompasses four abilities which build upon each other which are the ability to *perceive* and express one's own and others' feelings and emotions, the ability to *use* affects and emotions to evoke certain behaviors, the ability to *understand* emotional reactions and reason about what causes certain emotions in oneself or others and lastly to *manage* and regulate emotions in oneself and others. The concept of EI builds upon the theory of multiple intelligences by the education researcher Howard Gardner (1983, 1992). Gardner criticized the standard notion of intelligence as a single notion often measured and expressed as IQ and introduced a more pluralistic view on intelligence consisting of eight forms of intelligence, two of them being *inter*personal and *intra*personal intelligence. These two bits of intelligence express a person's ability to "[…] recognize and understand other people's [or one's own] moods, desires, motivations, and intentions." (Davis et al., 2011). In contrast to the classical view on intelligence, which sees intelligence as an innate trait, with which someone is born and which cannot be changed, Gardner (1983) claims that in the theory of multiple intelligences, intelligence is a combination of both heritage and training through experiences.

The concept of EI by Salovey & Mayer (1990) was later popularized by Goleman (1995). In his book *Emotional Intelligence,* he addressed the question of why EI can matter more than IQ. Since Goleman's publication, a lot of research was conducted on EI and its effect on a variety of factors, which will be summarized in the next chapter.

2.3.1 Emotional Intelligence as a Predictor

High levels of EI are often associated with outcomes that are perceived positively by the general public. People higher in EI are less likely to engage in violent behavior such as bullying and are less likely to use tobacco, drink alcohol to excess, or take illicit drugs (Brackett et al., 2004; Brackett & Mayer, 2003; Trinidad & Johnson, 2002). Individuals high in EI also report more positive interactions and relations with other people (Côté et al., 2010). It is also a reliable predictor of social competence in

children (Izard et al., 2001) and adults (Brackett et al., 2006; Lopes et al., 2005) as well as psychological well-being (Brackett & Mayer, 2003)

Looking at the business context, EI was also found to be related to a variety of outcomes perceived as positive. Christiansen et al. (2010) compared the two basic approaches to measure EI, the performance-based measure, and the self-report measure, which will be further elaborated in the course of this thesis. They found them both to be correlated to job performance, which was measured through the assessment of the participants' real-life supervisors. The effect of EI on job performance has also been studied by Sy et al. (2006), who found EI to be a significant predictor for job performance controlling for the Big Five personality factors. While job performance was again measured by the assessment of the participant's supervisor, EI was measured by the self-report measure by Wong & Law (2002). Besides job performance Sy et al. (2006) also found EI to be a significant predictor for job satisfaction. In another study, a negative correlation was found between high levels of EI and job stress (Nikolaou & Tsaousis, 2002). Stress was measured through employees' self-assessment, and EI was measured by another self-report questionnaire called the Emotional Intelligence Questionnaire (EIQ), which was developed by Tsaousis (2003) but seemed not to have received any further academic attention.

Due to these positively perceived associations of EI, both related to social competences as well as the business context, it became highly recommended by researchers to use a candidate's level of EI as criterium in personnel selection (Caruso et al., 2015). Further, EI has been studied in the educational literature, from which the suggestion to include social and emotional learning into educational curricula followed (Zins et al., 2000). Even political research has studied the relevance of EI concerning political success (Greenstein, 2000). One field of research that has, however, received only limited attention regarding the influence of EI is decision making. In the next chapter, the only work that has been done in this research field will be presented.

2.3.2 Emotional Intelligence in Decision-Making

Until today only one paper has turned its attention towards role of EI in decision-making. Yip & Côté (2012) found that high emotion-understanding ability, which is one of the four branches of EI according to the definition of Salovey & Mayer (1990), moderates the influence of anxiety on risk-

taking. In their experiment, anxiety was induced by telling participants they had one minute to prepare a 3-minute speech on "why they are a good job candidate", which would be recorded and shown to their peers. Following this priming task, participants had to complete a risk-taking task. Participants with low emotion-understanding ability showed lower levels of risk-taking when experiencing incidental anxiety compared to participants in a neutral condition. This difference between treatment groups was not present for participants with a high emotion-understanding ability. They explain this finding by attributing the ability to detect the source of anxiety to some cause irrelevant to the decision at hand to people with high emotion-understanding ability. Moreover, they found that this effect was not present anymore when the participants were made aware of the fact that they could be emotionally influenced in their decision which further supports their initial findings.

This study measured the emotion-understanding ability using the respective 32 items from the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT), which is a performance-based measure for EI (Mayer et al., 2002). In this ability, test participants are, for example, instructed about someone's current emotional state and have to say how this person will feel when they experience a particular situation. The 32 questions test whether the participant understands emotional chains and knows how emotions evolve. Referring back to the risk-taking experiment, participants high in emotion-understanding ability understood that they felt anxious because of the speech they will have to hold in front of the camera. They realized that the task at hand was not the reason for their anxiety and thus showed the same risk-taking behavior as participants in the neutral condition.

As already mentioned in the previous chapter, there are two ways to assess EI; the performance-based measure, which was used in this study, and the self-report measure. Different opinions on the applicability of the one or the other measure exist, and many studies have even dealt with the comparison of both measures (Brackett et al., 2006; Brackett & Mayer, 2003; Christiansen et al., 2010). Both measures go back to the perception of EI as either trait or ability. The next chapter will elaborate on these two different views and compare their corresponding ways of measurement according to their consistency and reliability.

2.3.3 Performance-based and Self-report Measures of Emotional Intelligence

After the conceptualization of EI by Mayer & Salovey (1997; Salovey & Mayer, 1990) and Goleman (1995), different attempts were made to measure the construct. The first one published was the Bar-On Emotional Intelligence Inventory (Bar-On EQ-i), which is a 133-item self-report measure for EI (Bar-On, 1997). Shortly after that another self-report measure for EI, the Self-Report EI Test (SREIT) by Schutte et al. (1998), which consisted of only 33 items and was thus more practical in its application, received further scientific attention. The conceptualization of EI by Salovey & Mayer (1990) is the basis for both measurements.

Mayer et al., (2000) and Petrides & Furnham (2000) were both pointing towards the same thing when they highlighted the need to distinguish between ability EI and trait EI. Ability-based models encompass the aptitude of a person in processing emotion-related information (Mayer et al., 2000), while the trait-based models involve non-cognitive factors such as attitudes towards emotions. According to Petrides & Furnham (2000), trait EI is always assessed with a self-reporting questionnaire, while ability EI is an individuals' maximal performance concerning an EI task, also called performance-based measure. Today, the most widely known and also one of the very few existing performance-based measures of EI is the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT), which was subsequently developed by Mayer et al. (2002). Self-report measures of EI and performance-based measures of EI were found to be weakly correlated, which shows that the two measures are distinct from each other and thus picture different aspects of a person (Brackett & Mayer, 2003). The differentiation between trait and ability EI and the corresponding ways of measuring EI is widely accepted today. Which one of the two is, however, the more appropriate way of measuring EI is much discussed in the literature.

The concept of trait EI had been criticized for being very similar to measures of personality. Brackett & Mayer (2003), for example, identified a strong correlation between the Bar-On EQ-I and the Big Five personality dimensions. Besides that, Petrides & Furnham (2000) found that self-estimated trait EI and measured ability EI were generally higher correlated amongst men than women, which indicates some sort of inconsistency in one of the measurements of EI. The MSCEIT was found to exhibit high reliability (Brackett & Mayer, 2003) and to be free of mood and social desirability bias

(Lopes et al., 2003). Moreover, while women score higher on MSCEIT than men, no gender differences were found in the self-report measure (Brackett et al., 2006; Brackett & Mayer, 2003).

All this speaks in favor of the performance-based measure as the preferred one for the assessment of EI. However, the definition of the 'correct' answer in the performance-based must be brought into question, especially when looking at an international context. In all self-assessment tests for EI, participants are asked to indicate in how far certain descriptive statements like for example, "I have a good sense of why I have certain feelings most of the time." (Mayer et al., 2002) pertain to them. This type of measure for EI is, of course, entirely subjective and potentially influenced by a wrong self-perception as well as a social desirability bias. As opposed to this, the performance-based measure consists of questions with a defined correct answer. An objectively correct answer does neither exist here, but a quasi-objective solution gets determined during the development of the test either through expert opinions or group consensus (Mayer et al., 2000). What group consensus means is that participants are considered high in EI when the majority of other participants in the norm sample also choose their answer. This way of rating EI might, however, fail to assess someone's emotional abilities and simply aims towards conformity to norms (Roberts et al., 2001). It rates people high in agreeableness as emotionally intelligent, which might make sense when one thinks about the real-life situations in which group conformity brings social advantages by avoiding conflicts but is, however, highly misleading when thinking about EI as an intelligence. Considering common decision biases, the person who does not conform to the group should be the one seen as highly emotionally intelligent. Law et al. (2008) further raise the concern that it might be problematic to use norm-referenced criteria in international study design. The MSCEIT has been tested for reliability and was found to be a consistent measure of EI. However, the examination of the measure did not take place outside of the U.S. It must be assumed that emotional reactions by Chinese respondents, that would conform to the norm in the Republic of China are distinct from those in the U.S. norm sample (Law et al., 2004; Wong & Law, 2002). When considering that many companies adopt EI as a criterium in personnel selection, the EI test used will have to be validated across cultures, which is not yet the case for the MSCEIT. The missing validation of the MSCEIT outside the U.S. is why its application in cultural settings other than the U.S. is problematic.

One EI test, for which cross-cultural validity tests have been conducted, is the Wong and Law Emotional Intelligence Score (WLEIS), which is a self-report measurement for EI developed by Wong & Law (2002). This test, which consists of only 16-items in total, is based on the theoretical framework of EI by Mayer & Salovey (1997) and thus encompasses the following four branches of EI; *self-emotion appraisal, others' emotion appraisal, use of emotions* and *regulation of emotion*. Unlike other self-reporting EI questionnaires that have been criticized for being very similar to the of the Big Five personality dimensions, the WLEIS was found to be significantly different from this measurement (Law et al., 2004). Moreover, researchers have tested this scale across different cultures and ascertained good validity and reliability (Law et al., 2004, 2008; Libbrecht et al., 2014).

Cross-cultural validity for the WLEIS was tested to be given. Therefore, the WLEIS was chosen as a measure of EI for this study. Further, the self-assessment of EI, as opposed to performance-based measures of EI, was found to be the more appropriate way of assessing EI. The non-existence of objectively correct answers to EI questions, especially when it comes to cross-cultural differences, was the main reason for this decision.

2.4 Research Gap and Research Question

This literature review has looked at a variety of studies that have investigated the influence of different variables on advice taking. It was found that only very few papers have studied how advice taking changes due to different incidental emotions the decision-maker is experiencing. However, they coincide regarding their findings, such that they all found that incidental other-focused positive emotions positively influence advice taking while incidental other-focused negative emotions negatively influence advice taking. Further incidental self-focused positive emotions negatively impact advice taking while incidental self-focused negative emotions positively influence advice taking.

The second focus of the literature review was on the influence of EI on different variables from the general personal context and the business context. It was found that high levels of EI are related to outcomes perceived positively by the general public. Regarding the field of decision-making, it was investigated that emotion-understanding ability, which is one component of EI, moderates the negative effect of anxiety on risk-taking.

Studies on the influence of emotions on advice taking and the moderating role of EI regarding the impact of emotions on risk-taking already exist. However, no study has raised the question of whether EI also moderates the effect of emotions on advice taking. This master thesis will thus deal with the research question of whether EI moderates the impact of incidental other-focused positive and negative emotions on advice taking. An experimental study was conducted on the online crowdsourcing platform MTurk to obtain data to answer this research question. In the next chapter, the underlying model of this study and the corresponding hypothesis will be presented. The section further contains the explanation of the method used to obtain the data and a presentation of the results from the statistical analysis.

3 Present Study

3.1 Model and Hypotheses

Building upon the findings from Gino & Schweitzer (2008) about the influence of positive and negative other-focused incidental emotions on advice taking and the results from Yip & Côté (2012) about the moderating role of EI in decision-making, the model displayed in Figure 2 was developed.

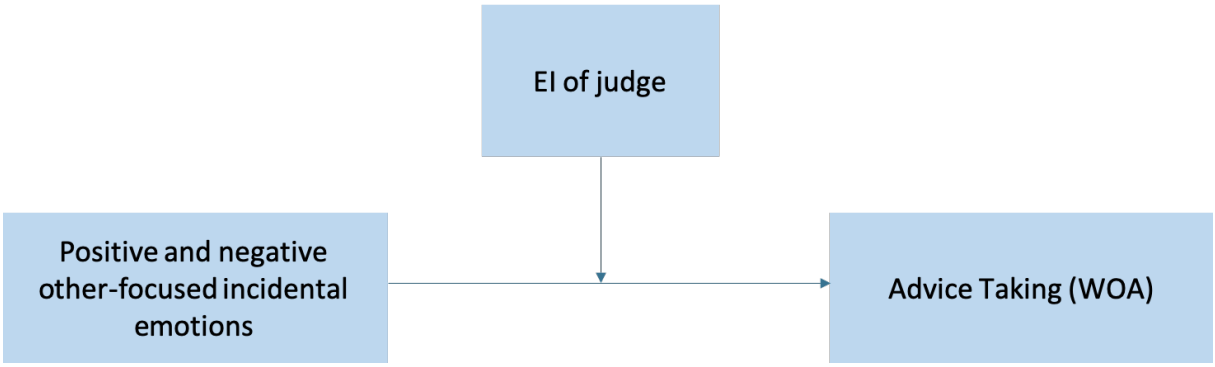

Figure 2: Conceptual model

This study aims to replicate the study of Gino & Schweitzer (2008) and additionally measures the EI of the judges to make inferences on the moderating role of EI on advice taking. Based on the findings from the literature review, the following six hypotheses were developed. Support for hypotheses 1a and 1b, as well as 2a and 2b, was already found in Gino & Schweitzer (2008). However, this study aims at finding further evidence for these propositions.

Hypothesis 1a: Individuals who experience incidental gratitude will be more receptive to advice compared to individuals in a neutral emotional state.

Hypothesis 1b: Individuals who experience incidental gratitude will be more receptive to advice compared to individuals who experience incidental anger.

Hypothesis 2a: Individuals who experience incidental anger will be less receptive to advice compared to individuals in a neutral emotional state.

Hypothesis 2b: Individuals who experience incidental anger will be less receptive to advice compared to individuals who experience incidental gratitude.

However, the novelty of this study lies in the exploration of the effect of the judge's level of EI on advice taking. The hypotheses 3 and 4 express what effect is anticipated based on the findings of the literature review.

Hypothesis 3: The effect of incidental gratitude on advice taking gets moderated by the judge's level of emotional intelligence, such that advice utilization is lower when the judge has a high level of emotional intelligence compared to judges with a low level of emotional intelligence.

Hypothesis 4: The effect of incidental anger on advice taking gets moderated by the judge's level of emotional intelligence, such that advice utilization is higher when the judge has a high level of emotional intelligence compared to judges who have a low level of emotional intelligence.

Even though the ultimate goal of advice utilization should be to improve the final judgment, final judgment accuracy will not be measured in this experiment. Gino & Schweitzer (2008) mentioned that on a case by case basis, the accuracy of the final judgment is highly dependent from other factors such as the accuracy of the initial judgment, the quality of the advice given and the individual's receptiveness to advice that might be influenced by their education. Moreover, measuring the final judgment accuracy in this study would not make sense as the advice that is given to the participants was manipulated and always stated the correct value. Thus, final judgment accuracy will improve in all cases in which the judge utilizes the advice to some extent.

3.2 Method

An experimental study was conducted to gather data to answer the research question of this thesis. Other than most of the studies in the field of advice taking that conducted experiments with students who received course credits in exchange for their participation (see Kausel et al., 2015 for one

of the few exceptions), this study used an online platform in the USA to collect the data. The criticism of this data collection method but also arguments for the appropriateness of this method for this study will be elucidated in the next chapter.

3.2.1 Data Collection Platform

The experimental study was conducted through the crowdsourcing online-platform Amazon Mechanical Turk (MTurk). This platform provides a marketplace for microtasks that require human intelligence and has been used by an increasing number of researchers as a means of data collection in the fields of psychology and social science throughout the last years (Chandler & Shapiro, 2016). Researchers (called *requesters*) post so called *Human Intelligence Tasks* (HITs) on the platform, and participants (called *workers*) who sign up for the task receive a specified amount of money upon completion. Initially launched in 2005 but excessively used for academic research studies since 2011, many researchers have studied MTurks sample composition and data quality in the meantime (summarized in Chandler & Shapiro, 2016).

While some researchers identified that the MTurk sample tends to be younger (Berinsky et al., 2012), others found that workers in the MTurk sample are better educated than the whole U.S. population but at the same time report lower income (Paolacci et al., 2010). Despite these differences in demographic variables between the MTurk sample and the U.S. population, Berinsky et al. (2012) found that the MTurk sample still represents the U.S. population better than college student samples. College student samples are often used in other academic research studies (e.g., De Hooge et al., 2014; Gino & Schweitzer, 2008; Yip & Côté, 2012). The better representation of the U.S. population through the MTurk sample justifies the use of MTurk for this study. Further, it is less time consuming and cheaper than lab experiments (Berinsky et al., 2012; Buhrmester et al., 2011).

Besides the concerns about the representativeness of the sample composition, researchers have also raised concerns about the data quality generated through MTurk studies. Participants of the studies are incentivized to complete the tasks at hand as fast as possible as they receive more money, the more HITs they are completing. In several studies, workers report that money is the primary motivating factor for their participation (Behrend et al., 2011; Horton et al., 2011; Litman et al., 2015; Paolacci et al., 2010) which raises concern about the truthfulness of their answers. However, Buhrmester et al. (2011)

found that data quality in low compensation samples was as good as in high compensation samples and that the compensation rate influences only the speed of the data collection. Moreover, it was found that participants often completed the HITs while doing something else as watching TV and thus potentially could be distracted (Chandler et al., 2014). Empirical evidence for distraction and lack of truthfulness, however, was not found.

After carefully having reviewed the concerns about the sample composition and the data quality of MTurk, this platform was found to be appropriate for this study, mainly because of the speed and ease with which data can be collected and the relatively low cost that comes with it.

The experiment was not directly built on the MTurk platform, but participants could access it by clicking on a link that was provided, which let them to the limesurvey.com website on which the experiment was built and hosted. Limesurvey.com was chosen as a tool due to the versatile options of editing questions and integrating visuals into the experiment.

3.2.2 Participants

Three hundred forty-two workers from the MTurk platform took part in the experiment. However, 57 participants exit the experiment early, and 133 participants entered inappropriate answers, which is why they were not compensated for their participation. The remaining 152 participants were paid 0.85 $ for their participation upon completion. To minimize the risk of any influence of language problems on the data quality, only workers based in the U.S. could participate in this experiment. Sixty-six of the workers were female, while 86 were male with a median age of 35 (min. 23, max. 70). Compared to the median age of the resident population of the United States, which was 38.2 years in 2018 (US Census Bureau, 2019a), it can be said that the sample was slightly younger than the population. The gender ratio showed that the sample did not quite represent the gender ratio of the resident population of the United States, which was 49 % men against 51% women in 2018 (US Census Bureau, 2019b). With a ratio of 57% men against 43% women, the percentage of men in the sample was higher than in the U.S. population.

3.2.3 Procedure

The workers were told that they would complete three independent tasks that have been joint into one survey for simplicity reasons and are, however, not related to each other. This information was

given to control for demand effects. The participants were randomly allocated to either the gratitude, neutral, or anger condition. They had to complete a weight estimation task, a memory task, and a self-appraisal task, which together tested their advice taking after emotional priming and their level of EI. After the completion of a set of demographic questions, the participants were given a code confirming their participation, which they could enter on the MTurk platform in order to receive their compensation of 0.85 $.

The data collection took place between the 9th and 14th of January 2020. The expected completion time was 7 minutes. Based on this predicted time, the compensation of 0.85 $, which corresponds to the U.S. minimum wage of 7.25 $ an hour, was determined. However, participants on average took 9:42 minutes (min: 2:26 minutes, max. 32:19 minutes), which is considerably longer than expected. This difference was caused by the few participants who took very long to complete the experiment. As already mentioned, previous studies found that participants often report being in a room with a different person or watching TV while completing a task on MTurk (Chandler et al., 2014). Most likely some participants of this study got distracted throughout the experiment and continued with the task at a later point in time. The distraction explains why some participants took considerably longer to complete the experiment. When looking at the median time needed to complete the test instead of the mean, it shows that participants took 7:59 minutes, which is much closer to the anticipated 7 minutes. Nevertheless, for further experiments, a more generous completion time should be forecasted to guarantee fair compensation of workers.

In the next five sub-chapters, each task included in the experiment will be explained in detail.

3.2.3.1 Weight estimation task

As in other studies in the field of advice taking (Gino et al., 2012; Gino & Moore, 2007; Gino & Schweitzer, 2008; Kausel et al., 2015) participants were shown pictures of different persons and were asked to estimate the person's corresponding weight in pounds. The first picture was displayed on the screen, and the participants were requested to enter their weight estimation for this person in pounds before they could continue to the next picture. This procedure got repeated for five rounds in total. The persons shown in the pictures (three men, two women) are all permanent residents of Austria. The

possibility that workers might have known the persons in the photographs can thus be excluded or seen as extremely unlikely.

3.2.3.2 Emotional priming tasks

After the first weight estimation task, the study continued with an emotional priming task. As already mentioned, participants were randomly allocated to one of the three treatment groups at the beginning of the experiment; the gratitude condition, the neutral condition, or the anger condition. Following an Autobiographical Recall Procedure, participants were invited to sit back, clear their mind, and think of a situation in which they felt angry (anger condition) because of something or grateful (gratitude condition) for something. Participants were instructed to take one to two minutes to write about this experience and to describe in detail why they felt this way, and towards whom they had these feelings. In the neutral condition, participants were asked to describe a normal day in their life. This procedure has been used in several studies in the field of emotion research before (De Hooge et al., 2014; See et al., 2011; Tangney et al., 2007; Tracy & Robins, 2007; for the whole list of studies that used this procedure Mills & D'Mello, 2014). To make sure participants were entering a meaningful answer, participants could only click next after they have typed in at least 300 characters. This procedure, which is also called Autobiographical Emotional Memory Task (AEMT) or directed writing task, is a prevalent induction technique. It is easy to implement, takes a relatively short time, and does not need any additional material besides a textbox (Mills & D'Mello, 2014).

After the writing task, participants were instructed for the second weight estimation task in which they received some advice.

3.2.3.3 Weight Estimation with Advice

In the second weight estimation task, participants were shown the same pictures as in the first weight estimation task in precisely the same order as before. Additional to the estimate they gave in the first round, participants were provided with the estimate that another participant allegedly had made for the same picture. However, this value reflected the person's real weight and was the same for all participants across the different conditions. In the gratitude and anger condition, participants were told to imagine that the person they just received the advice from was the person they described in the autobiographic recall task. This procedure was developed by De Hooge et al. (2011) to relate the

experienced emotions from the autobiographical recall task on the advice taking task. After the participants had seen their first estimate and the advice, they were asked to provide a final estimate for the weight of the depicted person.

3.2.3.4 Emotional Affect Test

The next task aimed at testing if the emotional priming was successful. Participants were requested to think back to memory tasks after they had completed the final weight estimation task. They were then asked to indicate on a 9-point scale (0 = not at all, 8 = more strongly than ever) in how far the described situation made them feel grateful, appreciative, thankful, neutral, indifferent, unemotional, angry, furious and mad. These nine emotions and feelings got extracted from the affect inventory from Gross et al. (1998) which comprises 19 emotions in total and has been used in other studies in order to assess emotional affect (Gino & Schweitzer, 2008; Lerner et al., 2004; Lerner & Keltner, 2001). The order of the emotions was randomized with the aim of controlling for order effects.

3.2.3.5 Emotional intelligence test

After the emotional affect test, all participants had to complete an EI self-reporting test, which was measured along the Wong and Law Emotional Intelligence Score (WLEIS). In order not to let participants know that this test is supposed to assess their emotional intelligence, this part of the experiment was called a self-appraisal task.

The WLEIS is a self-reporting questionnaire, which is consistent with the definition of EI from Salovey & Mayer (1990). As a reminder, Salovey & Mayer (1990) picture EI as a composite of 4 abilities: (1) monitor one's own feelings and emotions, (2) monitor other's feelings and emotions, (3) use of emotions to guide one's thinking and actions, (4) discriminate among different emotions. Wong & Law (2002) have named these four abilities (1) *self-emotion appraisal* (SEA), (2) *others' emotion appraisal* (OEA), (3) *use of emotion* (UOE), and (4) *regulation of emotion* (ROE). Each ability is assessed through 4 questions each (see Appendix 7.1). Participants are prompted to indicate on a 7-point Likert scale in how far they agree (1 = strongly disagree; 7 = strongly agree) with the statements from the WLEIS. As an example, one of the statements from the scale that belongs to (4*) regulation of emotion,* states: "I can always calm down quickly when I am angry" (Wong & Law, 2002, p. 271, l. 6). The order in which the statements were listed was randomized to control for order effects.

The literature review already highlighted two advantages of the WLEIS test, which is the significant difference in the measurement of the Big Five personality dimensions compared to other self-report measures of EI and the good cross-cultural validity and reliability. Besides that, the WLEIS was also chosen for this experiment due to its compactness and its free access.

Finally, participants had to indicate their sex and age and were thanked for their participation. They were provided with a participation code, which they could enter on the MTurk platform to receive their payment. This code further made it possible to relate the answers to the MTurk accounts through which inappropriate responses could be denied payment. Responses were considered as inappropriate when participants had pasted a random text into the textbox of the memory task in order to be able to proceed. In this case, participants have not fulfilled the task to write about a specific personal situation and were thus denied payment.

The next chapter will look at the most widely used method to calculate advice taking for numeric judgment tasks and will explain how the output should be interpreted.

3.2.4 Measuring Advice Taking

The dependent variable of this study is advice taking. One way to measure the use of advice by judges in numeric judgment tasks was developed by Harvey & Fischer (1997) who defined advice taking as "[…] the difference between the original and final judgment expressed as a percentage of the difference between the original judgment and the advice" (p. 112, ll. 31). Yaniv (2004a) amended this formula by taking the absolute values of the distance between final and initial advice as well as between advice and initial estimate and called this ratio the *weight of advice* (hereafter referred to as WOA). This ratio was since then used as a measure of the advice taking by many studies in this research field (see De Hooge et al., 2014; Gino et al., 2012; Gino & Schweitzer, 2008). Like the advice taking ratio by Harvey and Fischer (1997), the WOA ratio expresses to what extent the judge shifted the initial estimate towards the estimate of the advisor and thus utilized the advice given for the final estimate. This percentage shift measure defined as WOA can be computed using the following formula:

$$WOA = \frac{|\ final\ estimate - initial\ estimate\ |}{|\ advice - initial\ estimate\ |}$$

The WOA ratio takes on values between 0 and 1. If the judge and the advisor are equally well informed, it would be rational to weigh the advice as heavy as the own initial judgment, which would result in a WOA score of 0.5 (Gino & Schweitzer, 2008). A WOA score below 0.5 thus expresses an underweighting of advice and a WOA score above 0.5 an overweighting of advice (see Table 1 for numeric examples).

Initial estimate	Advice	Final estimate	WOA score	Interpretation
100	120	110	0.5	Equal weight is given to initial estimate and advice (advice as good as initial advice)
100	120	100	0	Advice got ignored (underweighting of advice)
100	120	120	1	Advice got fully utilized (overweighting of advice)

Table 1: Numeric examples for the WOA score

Numerically the WOA ratio can also take on values above 1. This will be the case when the final estimate not only approaches but overshoots the advice given. In the example from the table, the WOA score would be 1.5 if the final estimate was 130, which would be above the advice. Following previous studies (De Hooge et al., 2014; Harvey & Fischer, 1997), the WOA scores that are above the value of 1 and thus overshot the advice were rounded to 1 for further analysis.

Due to the absolute values in the formula, the WOA score cannot take on negative values. This constraint can be highly misleading when thinking about the example in the table but with a final estimate of 90. In this case, the WOA score would also be 0.5, so precisely the same as in the example where the final estimate is 110. However, in this case, the judge does not give equal weight to initial estimate and advice but moves away from the advice. This example illustrates the disadvantage of the WOA ratio. It does not differentiate between the case in which the final estimate approaches the advice and the case in which the final estimate moves away from the advice. Those cases where the final estimate moves away from the advice will thus be excluded from the analysis.

For building the dependent variable, an average WOA score for each participant will be calculated by taking the mean of the WOA scores across the five weight estimation tasks (or less if cases had to be deleted for the explained reason).

In the following chapter, the data collected from the described experiment will be analyzed and interpreted.

3.3 Results from Statistical Data Analysis

This chapter will lead through the data preparation procedure and the statistical analysis of the reviewed data set and will highlight statistically significant results.

3.3.1 Elimination of Data Entries

Before starting with the analysis of the collected data, the data entries for the weight estimation task were reviewed for outliers and misleading WOA scores. As suggested by Hoaglin & Iglewicz (1987), all values more than three interquartile ranges (IQR) from the 25th percentile or the 75th percentile were labeled as outliers (see Appendix 7.2.1). Seventeen data entries for weight estimates were identified as outliers and thus excluded from further analysis. As the WOA score is calculated using the initial and the final estimate, the corresponding data entry had to be deleted as well if one of the two, either the initial or the final estimate (hereafter referred to as weight estimate pairs), had been identified as an outlier. For one participant, all five weight estimate pairs had to be excluded, because either the initial or the final estimate had been identified as an outlier. In this case, all data from the participant was excluded from further analysis, which reduced the sample to 151.

As already mentioned in the previous chapter, the WOA score can be misleading if the final estimate moves away from the advice. The data entries for the initial and final estimates were reviewed by hand. The weight estimate pairs where the final estimate moved away from the advice (30 pairs) were excluded from further analysis.

In total, 41 weight estimate pairs from the data set with the remaining 151 participants were excluded from further analysis, which accounts for 5.4 % of all weight estimate pairs.

3.3.2 Internal Consistency of Scales

In the conducted experiment, several variables were tested to measure the constructs of feelings of gratitude, feelings of anger, and neutral feelings, but also the four branches of EI, namely SEA, OEA, UOE, and ROE.

Instead of asking participants to what extent they felt feelings of gratitude, they had to indicate to what extent they felt appreciative, thankful, and grateful. To measure the four EI branches, they were asked to assess four abilities that have to do with each of the branches. Instead of letting them determine their ability to regulate their emotion (ROE), participants had, for example, to assess their ability "to control [their] temper and handle difficulties rationally" or "to always calm down quickly when [they are] very angry" (Wong & Law, 2002, p. 271, ll. 4 and 6). This way of assessing a construct is called summated rating scales as the answers to the observed variables can be summed and averaged to get the score for the underlying construct one is interested in (Lehman et al., 2013).

However, before compiling composite scales by averaging the answers belonging to the different constructs, it must be verified that they express the same thing. Cronbach's Alpha is a widely used measure of the internal consistency of a scale (Lehman et al., 2013). It expresses how well a group of variables or items correlate with one another and measure a single construct. It is suggested that a Cronbach's Alpha score above 0.7 is an acceptable reliability coefficient (Nunally, 1978). However, the researcher decides to interpret the alpha, which is why the 0.7 should not be considered as a cutoff point. Very high internal consistency scores are not necessarily good either as they show that some items within the scale are redundant, which is why it is suggested to interpret a Cronbach's Alpha between 0.8 and 0.9 as optimal (Clark & Watson, 1995; DeVellis, 1991).

The internal consistency of the three constructs feelings of gratitude, neutral feelings, and feelings of anger was assessed using Cronbach's Alpha (see Appendix 7.2.2.1 – 7.2.2.3). The alpha for feelings of gratitude (0.958) and feelings of anger (0.962) was extremely high, which indicates that one or even two of the construct variables could potentially be excluded in future experiments to reduce complexity. The alpha for neutral feelings (0.828) was, however, optimal, suggesting that the variables unemotional, indifferent, and neutral cover this construct very well.

Further, the construct consistency of the scales for SEA, OEA, UOE, and ROE was tested, and Cronbach's Alpha scores of 0.821, 0.834, 0.668 and 0.830 respectively reveal an optimal scale consistency for SEA, OEA and ROE and a lower but still acceptable scale consistency for OEA (see Appendix 7.2.2.4 – 7.2.2.7). Ultimately internal consistency for the construct of EI, which in turn is composed of the constructs SEA, OEA, UOE, and ROE, was found to be very good as well with a Cronbach's Alpha of 0.79 (see Appendix 7.2.2.8).

As the internal consistency of all assessed underlying constructs was found to be good, the scale composition can be declared reliable, and the construct variables can be computed by averaging the respective observed variables.

3.3.3 The Success of Emotional Priming

After the second weight estimation task, participants in the three different conditions were invited to think back to the situation they described in the memory task and indicate to what extent this experience made them feel nine different emotions. As just described in the previous chapter, these observed variables of the underlying constructs, namely feelings of gratitude, neutral feelings, and feelings of anger, were then averaged into one composite scale.

Before comparing advice taking behavior in the three treatment groups, it must be assessed whether the emotional priming task was successful. The desired result is that participants in the gratitude condition reported higher feelings of gratitude than neutral feelings and feelings of anger, that participants in the neutral condition reported higher neutral feelings than feelings of gratitude and feelings of anger and that participants in the anger condition reported higher feelings of anger than neutral feelings and feelings of gratitude. It was found that participants in the gratitude condition reported significantly higher feelings of gratitude (Mean: 6.418, SD: 1.841) than neutral feelings (Mean: 2.163, SD: 2.166) ($t(50) = 8.958$, $p < 0.001$) and also significantly higher feelings of gratitude than feelings of anger (Mean: 1.046, SD: 1.867) ($t(50) = 12.991$, $p < 0.001$) (see Appendix 7.2.3.1). The priming of the feeling gratitude was thus successful in the sense that participants in the gratitude condition felt more feelings of gratitude than other emotions (see Figure 3). It was further found that feelings of gratitude significantly correlate negatively with neutral feelings with a medium effect size of r = - 0.429. A negative correlation between feelings of gratitude and feelings of anger with a small

effect size of r = - 0.269, which is, however, not significant was also identified. A negative correlation, in this case, denotes that the higher the reported feelings of gratitude by a participant, the lower the reported neutral feelings and feelings of anger.

In the anger condition participants reported significantly higher feelings of anger (Mean: 5.047, SD: 2.785) than feelings of gratitude (Mean: 1.56, SD: 2.107) ($t(49) = 6.271$, $p < 0.001$) and also significantly higher feelings of anger than neutral feelings (Mean: 1.767, SD: 1.956) ($t(49) = 6.083$, $p < 0.001$) (see Appendix 7.2.3.3). The priming of the feeling of anger was thus successful in the sense that participants in the anger condition felt more feelings of anger than other emotions (see Figure 3). Further, feelings of anger are negatively correlated with feelings of gratitude with a small effect size of r = - 0.278 and with neutral feelings with a small effect size of r = - 0.272. However, both correlations are not significant. Even though correlation findings are not significant, there is still a tendency that the higher the reported feelings of anger by the participant, the lower the reported feelings of gratitude and neutral feelings.

In the neutral condition no significant difference was found between reported neutral feelings (Mean: 4.167, SD 1.972) and feelings of gratitude (Mean: 4.347, SD: 2.534) ($t(49) = - 0.364$, $p > 0.05$) (see Appendix 7.2.3.2). However, a significant difference ($t(49) = 9.352$, $p < 0.001$) between reported neutral feelings and feelings of anger (Mean: 1.16, SD: 2.01) was identified. What this means is that participants in the neutral condition almost equally strongly felt neutral feelings and feelings of gratitude but reported low feelings of anger (see Figure 3). The equality of reported neutral feelings and feelings of gratitude might be because participants feel rather grateful than angry on a normal day. A significant negative correlation between neutral feelings and feelings of gratitude with a medium effect size of r = - 0.326 was found. In contrast, a significant positive correlation between neutral feelings and feelings of anger with a medium effect size of r = 0.348 was identified. Correlation findings signify that the higher the reported level of neutral feelings by the participant, the lower the reported feelings of gratitude, and the higher the reported feelings of anger.

It can be concluded that the emotional priming for the gratitude and the anger condition was successful, while the priming for the neutral condition was not successful in the way that participants in this condition reported feelings of gratitude and neutral feelings to almost the same extent. This will

have to be considered when interpreting the results from the statistical analysis in the discussion section. The fact that the neutral condition is very similar to the gratitude condition will prohibit making clear utterance with regard to some of the hypotheses.

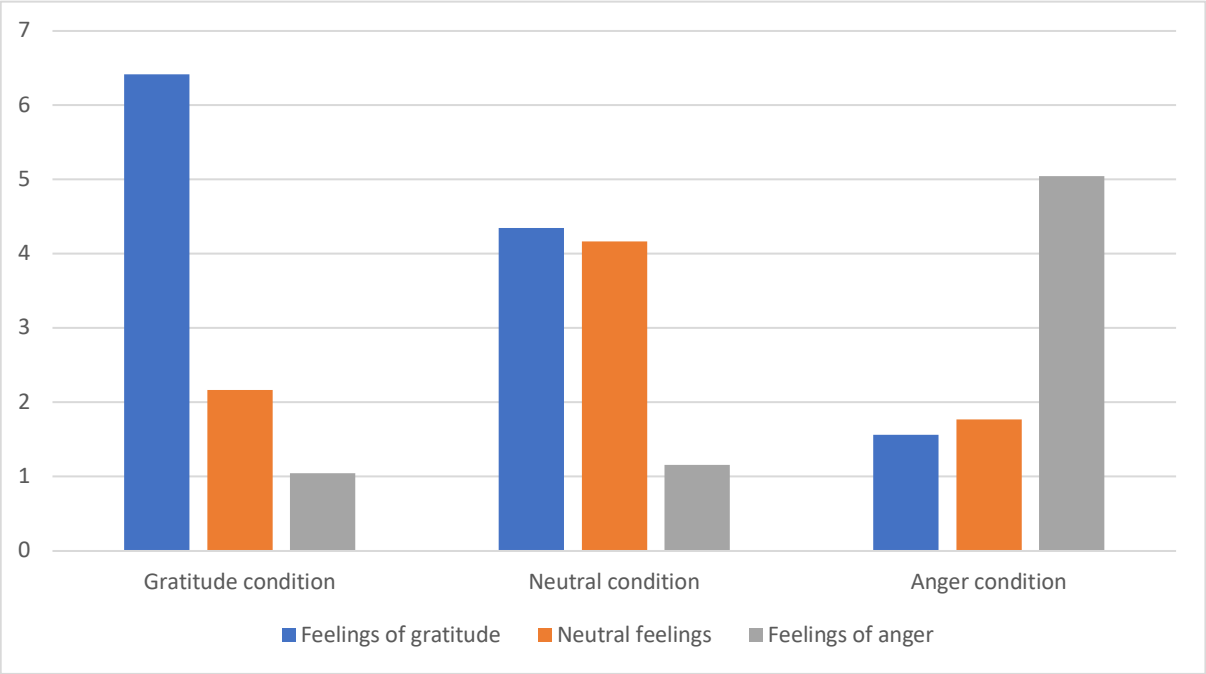

Figure 3: Reported emotions in the three treatment groups

3.3.3.1 Emotional Intelligence and reported emotions

An interesting thought might be that people high in EI do not report feeling angry in the first place when they are asked to think back and describe a situation in which they were angry. The same might be true for the gratitude condition. If that were the case, one would expect people higher in EI to report less strong feelings of gratitude and anger in the respective treatment groups.

The median level of EI scores across all three treatment groups was identified to test this presumption. All participants who had an EI score above this median EI score were rated to have a high EI. All participants with an EI score below this value were rated to have a low EI. This procedure is similar to the one used by Yip & Côté (2012) to distinguish between high and low emotion-understanding ability (hereafter referred to as EUA). They, however, identified participants who had a EUA score that exceeded the value one SD above the mean as higher in EUA and those who had a EUA score that undercut the value one SD below the mean as lower in EUA. This procedure is thoughtful in the sense that it recognizes the problem to have a cutoff value to assess EUA and to allocate participants to high or low EUA accordingly. However, Yip & Côté (2012) do not report in their study, how they

treat the participants who have a EUA between the values of one SD below and one SD above the mean, so a normal EUA. It seems as if these participants do not have any further relevance for their analysis. When coming back to this study and the reported levels of EI, over 80% of all reported EI scores lie between the values of one SD below and one SD above the mean. Applying the grouping technique used in Yip & Côté (2012) would exclude 80% of the data entries from further analysis. The exclusion of the majority of data from the analysis was eluded. Instead, the grouping technique explained earlier (EI score above-median → high EI; EI score below-median → low EI) was used for this analysis.

Comparing the reported feelings of gratitude by participants high in EI (Mean: 6.877, SD: 1.536) with those from participants low in EI (Mean: 5.903, SD: 2.044) in the gratitude condition, no significant difference could be found (see Appendix 7.2.3.4.1). The same was true for participants in the anger condition. The reported feelings of anger did neither significantly differ here between participants high in EI (Mean: 5.240, SD: 2.988) and participants low in EI (Mean: 4.853, SD: 2.612) (see Appendix 7.2.3.4.2). It can be noted that the judge's level of EI does not influence the intensity of the experienced emotion.

3.3.4 Influence of Emotions on Advice Taking

One of the main findings from the literature review was that people, experiencing incidental gratitude, use advice more than people in a neutral emotional state and people, experiencing incidental anger. Further, people experiencing incidental anger, utilize advice less than people in a neutral emotional state, and people, experiencing incidental gratitude (Gino & Schweitzer, 2008). This study aimed at providing further evidence for these findings by comparing the WOA scores of participants in three different emotional conditions, namely feelings of gratitude, neutral feelings, and feelings of anger. The statistical analysis of the data, however, did not reveal a significant difference between the WOA scores in the gratitude condition (Mean: 0.312, SD: 0.198), the WOA scores in the neutral condition (Mean: 0.288, SD: 0.183) and the WOA scores in the anger condition (Mean: 0.283, SD: 0.14) ($F(2,148) = 0.702$, $p > 0.05$) (see Appendix 7.2.4.1).

Advice taking was hereafter also calculated using the original Advice Taking formula by Harvey & Fischer (1997) instead of the WOA formula by Yaniv (2004a). As explained earlier, the formula by Harvey & Fischer (1997) does recognize when the final estimate moves away from the advice.

Therefore, the cases, which were deleted previously, as the final estimate moved away from the advice, were added to the data set again. Further, the Advice Taking score was not rounded to the boundaries of 0 and 1. Applying this different way of calculating advice taking did however neither reveal significant differences between the treatment groups gratitude (Mean: 0.306, SD: 0.269) neutral (Mean: 0.275, SD: 0.316) and anger (Mean: 0.244, SD: 0.203) ($F(2, 148) = 0.712$, $p > 0.05$) (see Appendix 7.2.4.2). A comparison of both calculation methods displayed in Figure 4, shows that the differences between the three treatment groups, especially between the neutral and the anger group are clearer using the formula by Harvey & Fischer (1997). It thus has been considered to use this formula for further analysis in this thesis. However, since applying the formula by Harvey & Fischer (1997) did neither reveal statistically significant differences between the treatment group and since the formula by Yaniv (2004a) is far more prevalent in the literature, the WOA ratio will be used for further analysis.

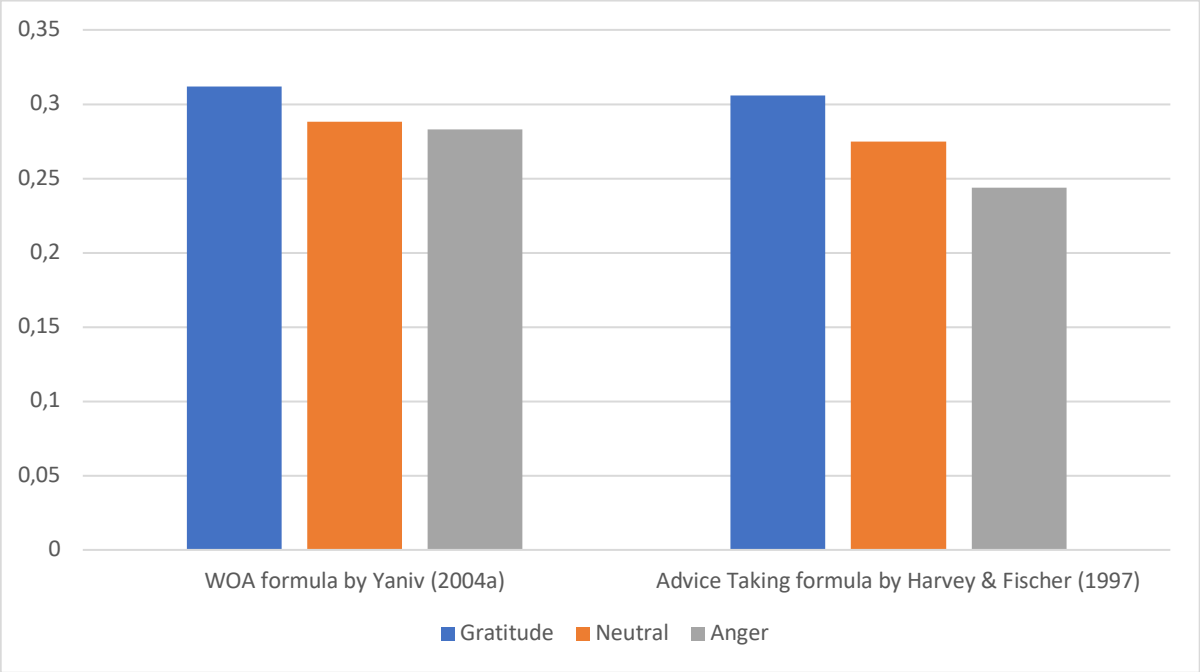

Figure 4: Advice Taking across the emotional conditions gratitude, neutral and anger using two different formulas

The primary purpose of this study is to investigate whether the level of the judge's EI moderates the effect of incidental positive and negative emotions on advice taking. The reason why no significant influence of positive and negative emotions on advice taking was found could, therefore, be the judge's level of EI and thus their ability to detach the experienced emotion from the task at hand. In the following chapter, it will be investigated whether participants with a high level of EI in the gratitude condition utilized advice less than participants with a low level of EI. Further, it will be studied whether

participants with a high level of EI in the anger condition utilized advice more than the participants with a low level of EI experiencing the same incidental emotion.

3.3.5 Moderating Role of Emotional Intelligence

Participants were allocated to either the high EI group or the low EI group according to the grouping technique described in the previous chapter to study the role of the judge's EI as a moderator in the relation between incidental positive and negative emotions and advice taking. However, no main effect of the level of EI on advice taking was identified ($F(1,145) = 2.656$, $p > 0.05$). Further analysis revealed that neither an interaction effect between priming condition and level of EI ($F(2,145) = 1.203$, $p > 0.05$) exists, meaning that the impact of emotions on advice taking does not depend on the judge's level of EI (see Appendix 7.2.5.1).

In the previous chapter, it was touched upon how to define the different levels of EI. The grouping applied in Yip & Côté (2012) cannot be utilized on this data set for the elucidated reason. However, it does not seem reasonable either to define a clear-cut value (median), above which EI is considered as high and below which EI is considered as low. A more appropriate way might be to consider the second and third quartile as middle levels of EI and only the lower quartile as low EI and the upper quartile as high EI. Nevertheless, no significant main effect of the level of EI on advice taking was either found using this grouping technique, which clusters the judge's level of EI in low, medium, and high ($F(2,142) = 0.232$, $p > 0.05$). Neither did the statistical analysis reveal an interaction effect between priming condition and level of EI ($F(4,142) = 0.681$, $p > 0.05$) (see Appendix 7.2.5.2).

3.3.5.1 Multiple Linear Regression Analysis

The research question of this study asks whether the judge's EI moderates the effect of incidental positive and negative emotions on advice taking. Putting this research question into different words, it asks whether judges in the gratitude condition use advice less, the higher their EI score is and whether judges in the anger condition use advice more, the higher their EI score is. Instead of grouping the judges into different EI levels according to their EI score, there seems to be an even more accurate way to answer this question. To answer the research question and to test these presumptions, the EI scores are not recoded into relative scores (high and low EI or high, medium and low EI), but remain as a scale variable in the following.

A multiple linear regression analysis was performed to predict advice taking based on the judge's EI score, the gratitude and anger scale, as well as two interaction variables, one between EI and gratitude and one between EI and anger. Besides the more accurate treatment of the EI score as a scale variable instead of a nominal variable in this analysis, more precise treatment of the actual emotions of the judge was intended in this analysis as well. The gratitude and the anger scale were used to assess whether a person feels grateful or angry instead of assuming that all participants in the gratitude condition are grateful, and all participants in the anger condition are angry. It was found that participants in the gratitude condition feel significantly more feelings of gratitude than all other feelings, and participants in the anger condition feel significantly more feelings of anger than all other feelings. However, using the genuine gratitude and anger scales reported by the judge is a more accurate way of analyzing the data.

For the multiple linear regression, preliminary analyses were performed to ensure there was no violation of the assumptions (see Appendix 7.3.5.3). The assumption of multicollinearity was met after mean centering the variables. However, the assumption of heteroscedasticity was violated. As a consequence, model estimates (β) are valid but not optimal, and confidence intervals, as well as significance tests, are invalid. Therefore, a robust regression was conducted employing bootstrapping to obtain confidence intervals and *p*-values, which do not rely on assumptions of homoscedasticity. Bootstrapping results revealed that X_1 and X_2 are significant predictors for advice taking, while X_3, X_4, and X_5 are not (see Table 2).

Bootstrap for Coefficients

			Bootstrap[a]				
						95% Confidence Interval	
Model		B	Bias	Std. Error	Sig. (2-tailed)	Lower	Upper
1	(Constant)	,292	,000	,015	,001	,264	,321
	X_1	,017	,001	,006	,009	,006	,030
	X_2	,013	,000	,006	,025	,002	,025
	X_3	,006	-,002	,020	,758	-,035	,044
	X_4	-,010	,000	,009	,289	-,028	,007
	X_5	-,012	7,618E-5	,009	,222	-,031	,006

a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Table 2: Coefficients and significance values for the developed model after bootstrap

$$\text{Advice Taking} = 0.292 + 0.017X_1 + 0.013X_2 + 0.006X_3 - 0.01X_4 - 0.012X_5 + \varepsilon_i$$

$$X_1 = Extent\ to\ which\ a\ person\ feels\ the\ emotion\ gratitude$$
$$X_2 = Extent\ to\ which\ a\ person\ feels\ the\ emotion\ anger$$
$$X_3 = Emotional\ Intelligence\ of\ the\ person$$
$$X_4 = Interaction\ between\ the\ extent\ to\ which\ a\ person\ feels\ gratitude\ and\ its\ EI$$
$$X_5 = Interaction\ between\ the\ extent\ to\ which\ a\ person\ feels\ anger\ and\ its\ EI$$

The developed model for advice taking is tested to be significant ($F(5,145) = 2{,}484$, $p < .005$) compared to not fitting the model and explains 7.9% of the variability in the outcome variable (R^2) (see Appendix 7.2.5.3). The predicting variables that significantly influence advice taking are the extent to which the person feels the emotion gratitude and the extent to which the person feels the emotion anger. As the extent to which a person feels the emotion gratitude increases by one unit, advice taking hikes by .017 units, and as the extent to which a person feels the emotion anger increases by one unit, advice taking increases by .013 units. This means that a person feeling the emotion gratitude to a certain extent uses advice more than a person feeling the emotion anger to the same extent. Also, a person feeling the emotion anger to a certain extent uses advice less than a person feeling the emotion gratitude to the same extent.

The predictor X_3, which is the person's EI Score, is positive but very small (.006) and not significant. A person's EI score was not expected to significantly influence advice taking as no general positive or negative effect of a person's EI score on advice taking was presumed. The EI score of a person is only expected to influence advice taking in interaction with the extent to which a person feels the emotion gratitude, or anger.

The two interaction terms X_4 (interaction term between the extent to which a person feels the emotion gratitude and its EI) and X_5 (interaction term between the extent to which a person feels the emotion anger and its EI) were tested to influence advice taking negatively. Both variables are, however, proved to be not significant. The model predicts that the higher the interaction terms (strong emotion and high EI score), the lower the advice taking. While this effect was predicted for the interaction term X_4 (Hypothesis 3), a positive effect for the interaction term X_5 (Hypothesis 4) was hypothesized, meaning that strong feelings of anger and a high EI score would result in higher advice taking compared

to strong feelings of anger and a low EI score. However, the model, in this case, predicts that advice taking will be lower, the higher the EI score and thus the interaction term, assuming the same feelings of anger.

The moderating role of the judge's EI on the relation between incidental other-focused emotions felt by the judge (gratitude and anger) and the advice taking of the judge was studied in this section. Two different statistical tests were used to find out whether judges with a high EI score experiencing feelings of gratitude use advice less than judges with a low EI score experiencing the same emotion. It was also studied whether judges with a high EI score experiencing feelings of anger use advice more than judges with a low EI score experiencing the same emotion. Both tests revealed that there was no interaction effect between the judge's EI score and the emotions felt by the judge that significantly influenced advice taking.

3.3.6 Regulation of Emotion as Key Branch of Emotional Intelligence

The idea of this study was to find further evidence for the influence of EI on decision-making to provide a profound scientific rationale on why the framework of EI should be used in personnel selection processes. The advantage of a framework is that it captures a variety of research findings that used to be scattered across books and journals and summarizes them into one comprehensive concept (Salovey & Mayer, 1990). In the case of EI, the framework pools findings on how people appraise and communicate emotions and how they make use of emotions to solve problems. Salovey & Mayer (1990) realized the necessity to conceptualize a framework for what they called EI for it to be relevant for further studies in psychology. Therefore, the concept of EI was chosen as a framework for a moderating effect in this study.

However, when looking at the four branches of EI, which are *self-emotion appraisal* (SEA), *other-emotion appraisal* (OEA), *use of emotion* (UOE), and *regulation of emotion* (ROE), the last one appears especially relevant for this study. It might thus be worth going from the broad framework of EI back to the more specific ability to regulate emotions. People high in the ability to regulate their emotions can, according to Wong & Law (2002, p. 246, ll. 28), "[…] regulate their emotions, which will enable more rapid recovery from psychological distress." After applying this ability to the context of this study, it was hypothesized that participants high in this ability, recover quickly from the

psychological distress they experience through the priming task. As a consequence, they should not get influenced in their advice taking by their current emotional condition. It is expected that their advice taking is thus less extreme, i.e., lower in the gratitude condition and higher in the anger condition, compared to participants with a low ability to regulate emotions.

Participants were grouped into low (above median) and high (below median) levels of ROE to test whether participants high in ROE utilize advice differently when experiencing positive or negative incidental emotions than participants low in ROE. This procedure mirrors the procedure used to group people into low and high levels of EI. Results show that no main effect of the level of ROE on advice taking can be identified ($F(1,145) = 0.312$, $p > 0.05$). Further analysis revealed that neither an interaction effect between priming condition and level of ROE ($F(2,145) = 1.719$, $p > 0.05$) exists, meaning that the impact of emotions on advice taking does not depend on the judge's level of ROE (see Appendix 7.2.6.1). As with EI, a different grouping technique was also tested. This grouping technique considers participants with a ROE score within the second and third quartile to have e medium ability in ROE and the ones in the first quartile to have a low and the ones in the fourth quartile to have a high ability in ROE. However, analysis of the results also revealed that no main effect of the level of ROE on advice taking ($F(2,142) = 0.955$, $p > 0.05$) and no interaction effect between priming condition and level of ROE ($F(4,142) = 1.148$, $p > 0.05$) exists (see Appendix 7.2.6.2).

In this section, it was considered that out of the four branches of EI, the branch ROE might be the one most relevant for this study. However, as with EI, no moderating effect of the level of ROE on the relation between emotions felt by the judge, and the advice taking behavior of the judge could be identified.

3.3.7 Sex differences in Advice Taking

As elaborated in the literature review, the role of the judge's sex in advice taking yields contradicting results regarding its' significance. However, the tendency that women appear to use advice more than men was the same in the reviewed studies. As part of the explorative analysis of the data set obtained for this study, it was investigated whether any sex differences exist regarding advice taking that support the findings from the literature.

The statistical analysis of the data set revealed that there was no significant difference between advice taking among women (Mean: 0.312, SD: 0.187) and men (Mean: 0.270, SD: 0.178) ($t = 1.385$, $p > 0.05$) (see Appendix 7.2.7). However, looking at the mean value of advice taking for both sexes (displayed in Figure 5), it can be ascertained that women on average used more advice than men but that this difference was not large enough to correspond to statistical significance levels. These results are consistent with previous findings.

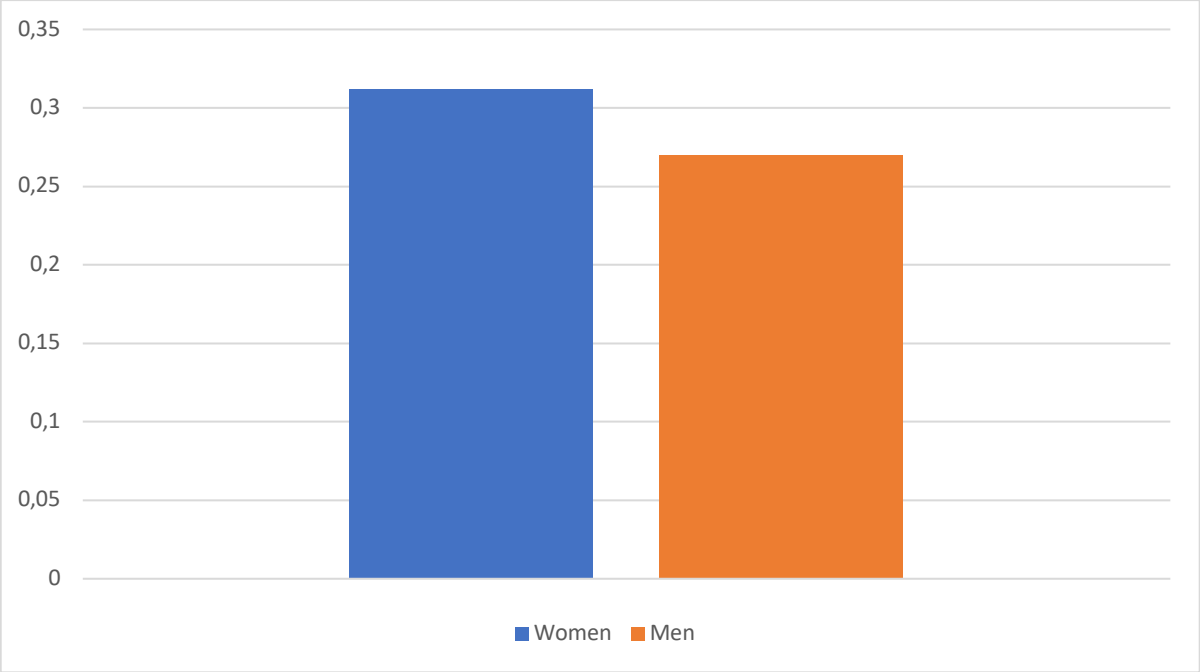

Figure 5: Mean WOA of women and men

3.3.8 Summary of Results

The results from the different parts of the statistical analysis will be briefly summarized in this section before they will be interpreted and discussed in the next chapter.

With the priming tasks, it was intended to evoke specific emotions in the participants of the three treatment groups to assess differences in their advice taking behavior. After the priming tasks, the participants were asked to indicate to what extent they felt feelings of gratitude, neutral feelings, and feelings of anger. It was found that the emotional priming was successful in the gratitude and in the anger condition. Participants in the gratitude condition indicated to have experienced significantly more feelings of gratitude than all other feelings, and participants in the anger condition indicated to have experienced significantly more feelings of anger than all other feelings. Yet, priming for the neutral

condition was not successful as participants reported experiencing feelings of gratitude and neutral feelings to almost the same extent. It was further tested whether a person with a high EI score reports less intense feelings of gratitude and anger compared to a person with a low EI score. However, no statistical support was found for this presumption.

After it was found that the emotional priming in the anger and the gratitude condition was successful, it was tested whether the three treatment groups show different advice taking behaviors. Results revealed that participants in the gratitude condition used advice more than participants in the neutral and the anger condition and that participants in the anger condition used advice less than participants in the gratitude and the neutral condition. However, these differences were not statistically significant.

As the key part of the analysis, the moderating role of the judge's EI score on the relation between incidental other-focused emotions experienced by the judge (gratitude and anger) and the advice taking behavior of the judge was studied. It was hypothesized that participants with a high EI experiencing feelings of gratitude, use advice more compared to participants with a low EI score experiencing the same emotions. Further participants, experiencing feelings of anger with a high EI, were presumed to use advice more than participants with a low EI experiencing the same emotions. However, using two different statistical approaches, no evidence was found for the moderating role of the judge's EI in the described relation.

As part of the explorative analysis, the moderating role of the branch ROE, which is the most relevant branch for this study out of the four branches of EI, was tested. As with the complete framework of EI, no moderating effect of the level of ROE on the relation between emotions felt by the judge, and the advice taking behavior of the judge was found.

Ultimately gender differences in advice taking were studied. Even though results showed that women used more advice than men, these findings were not significant.

4 Discussion

In this chapter, the results from the statistical analysis of the data set will be interpreted and explained. Based on that, statements regarding the established hypothesis and the overall research question will be made.

The analysis of the internal consistency of the scale items for feelings of gratitude and feelings of anger revealed Cronbach's Alpha above 0.9. The alpha indicates that one or even two of the scale items are redundant. Excluding them in future research and would not reduce the validity of the scale and should thus be considered to minimize the complexity of the experiment. Instead of asking participants to indicate to what extent they felt appreciative, thankful, and grateful or angry, mad, and furious respectively, one would expect the same results when merely asking participants to indicate to what extent they felt grateful or angry, respectively. For all other scales, Cronbach's Alpha was between 0.67 and 0.83, which can be interpreted as optimal alphas expressing an excellent internal consistency of scales.

The next section of the statistical analysis was dedicated to verifying whether the emotional priming task was successful. It was intended that participants in the gratitude condition feel significantly more feelings of gratitude than neutral feelings and feelings of anger, participants in the neutral condition feel significantly more neutral feelings than feelings of gratitude and feelings of anger and that participants in the anger condition feel significantly more feelings of anger than feelings of gratitude or neutral feelings. The statistical analysis revealed that while this was the case for the gratitude and the anger condition, no significant difference between neutral feelings and feelings of gratitude could be identified in the neutral condition. However, differences between neutral feelings and feelings of anger were significant in the neutral condition. These results imply that participants in the neutral condition, felt feelings of gratitude and neutral feelings to almost the same extent, but significantly fewer feelings of anger. As a reminder, participants in the neutral condition were asked to think of a normal day in their lives and describe what they do on such a day. Findings can be interpreted as such participants feel generally grateful on a normal day. As the neutral condition turned out to be very similar to the gratitude condition it will not be possible to make clear utterance to hypothesis 1a, which states that *individuals*

who experience incidental gratitude will be more receptive to advice compared to individuals in a neutral emotional state. For the same reason, no statement regarding hypothesis 2a, which states that *individuals who experience incidental anger will be less receptive to advice compared to individuals in a neutral emotional state,* can be made.

It was further tested whether participants with a high EI score reported less extreme feelings of gratitude and anger than participants with a low EI score in the respective treatment group. The presumption that the strength of experienced feelings could be different depending on someone's EI did not arise from the literature but was based on the definition of EI itself. The definition, among other things, implies that people high in EI can manage and regulate emotions in themselves better than people with a low EI (Mayer & Salovey, 1997). However, the statistical results did not support this presumption. No significant difference between participants high in EI and participants low in EI regarding the strength of the experienced emotions was identified, meaning that someone's EI does not influence the intensity of the experienced emotions. Therefore, EI was not considered as a moderator between the treatment group and the reported experienced emotions in the cause of further analysis.

It was further tested whether advice taking in the three treatment groups was significantly different from each other. This test refers to the findings of Harvey & Fischer (1997) that state, that the emotion gratitude positively affects advice taking and that the emotion anger negatively affects advice taking. Even though advice taking was highest in the gratitude condition and lowest in the anger condition, the differences were not significant. Hypotheses 1a and 2a had been dropped already after emotional priming for the neutral condition turned out to not have been successful. Further hypothesis 1b, which states that *individuals who experience incidental gratitude will be more receptive to advice compared to individuals who experience incidental anger* has been rejected. Moreover, hypothesis 2b, which states that *individuals who experience incidental anger will be less receptive to advice compared to individuals who experience incidental gratitude,* has been rejected as well. However, the results of this study still support the findings of Harvey & Fischer (1997) in their tendency.

What is further worth mentioning is that the average advice taking in the neutral condition of this study is consistent with previous findings on this field. Two different formulas have been used, and it was found that the average advice taking in the neutral condition was at 0.288 (WOA formula by Yaniv,

2004a) and 0.275 (Advice Taking formula by Harvey & Fischer 1997). Gino & Schweitzer (2008) discovered that people in a neutral emotional state, on average, adjust their estimate 27% towards the advice received. The results of this study are very close to their findings, especially when using the Advice Taking formula by Harvey & Fischer (1997). However, it needs to be considered that the neutral condition was tested to be relatively similar to the gratitude condition. Building on previous findings, this might have caused participants to use advice more than if they would indeed have been in a neutral emotional state.

In further analysis, it was considered that the reason why no significant influence of positive and negative emotions on advice taking was found could have been a moderating effect of the judge's level of EI. It was presumed that participants with a high EI experiencing incidental gratitude use advice less than participants with a low EI experiencing the same emotions and that participants with a high EI experiencing incidental anger use advice more than participants with a low EI experiencing the same feelings. Various statistical analyses were conducted, but none of them revealed a significant effect of the judge's level of EI on advice taking nor a significant interaction effect of the judge's level of EI and the experienced emotion on advice taking. Through a multiple linear regression analysis, a significant model with the five predictors feelings of gratitude, feelings of anger, judge's level of EI and two interaction terms one between judge's level of EI and feelings of gratitude and another one between judge's level of EI and feelings of anger was developed. The model explains 7.9% of the variability in the outcome variable advice taking. However, out of the five predictor variables, only feelings of gratitude and feelings of anger were found to influence the outcome variable significantly. The model shows that the *b*-coefficient for the judge's feelings of gratitude is highly significant and positive, indicating that more feelings of gratitude are associated with increased advice taken by the judge. The same is true for the *b*-coefficient for the judge's feelings of anger, which is significant and positive as well but smaller than the *b*-coefficient for the judge's feelings of gratitude. Findings can be generalized by saying that if feelings of gratitude increase by one unit, advice taking increase by 0.017 units holding all other variables constant, and if feelings of anger increase by one unit, advice taking increases by 0.013 units holding all other variables constant. Therefore, people who experience incidental gratitude to a certain extent utilize more advice than people who experience incidental anger to the same extent

controlling for the effect of EI and the interaction effect of EI and feelings of gratitude as well as the interaction effect of EI and feelings of anger. Further, people who experience incidental anger to some extent utilize advice less than people who experience incidental gratitude to the same extent controlling for the effect of feelings of gratitude, EI, and the interaction effect of EI and feelings of gratitude and EI and feelings of anger.

The *b*-coefficient for the two interaction terms are not significant. However, in the light of discussing the research question of whether the judge's level of EI moderates the effect of emotions on advice taking as such, advice taking gets less extreme the higher the judge's EI, the coefficients should still get discussed. The interaction term between the judge's EI and feelings of gratitude is negative, indicating that the higher the judge's EI score, the lower the advice taking (assuming constant feelings of gratitude). This effect was predicted in hypothesis 3 which states that *the effect of incidental gratitude on advice taking gets moderated by the judge's level of emotional intelligence, such that advice utilization is lower when the judge has a high level of emotional intelligence compared to judges with a low level of emotional intelligence*. Even though the result is not significant, and hypothesis 3 must thus be rejected, this should be taken as an indicator for further studies. The interaction term between the judge's EI and feelings of anger is, however, also negative, indicating that the higher the judge's EI, the lower the advice taking (assuming constant feelings of anger). Following hypothesis 4, which states that *the effect of incidental anger on advice taking gets moderated by the judge's level of emotional intelligence, such that advice utilization is higher when the judge has a high level of emotional intelligence compared to judges who have a low level of emotional intelligence*, this predictor was expected to be positive; as such, the higher the judge's EI, the higher the advice taking (assuming constant feelings of anger). Hypothesis 4 should be rejected primarily because it is not significant but also because the *b*-coefficient in the proposed model does not coincide with the predicted direction. Generalizing these findings and answering the research question, it can be said, that the judge's EI score does not moderate the relation between incidental other-focused emotions felt by the judge and the advice taking of the judge.

Since no significant effect of the judge's EI on advice taking nor a significant interaction effect between the judge's EI and the experienced emotions on advice taking was found, it was considered

whether the framework of EI might be too broad. As part of the explorative analysis, the moderating effect of the branch *regulation of emotions* (ROE) was thus studied, as this branch appealed to be the most relevant for this study. However, as with EI, no significant moderating effect of the judge's level of ROE on the relation between emotions felt by the judge, and the advice taking behavior of the judge could be identified. It can thus be said that advice taking does not depend on the judge's ability to regulate their emotions. Whether to use the framework of EI or just the branch of ROE for future research in this field, is a balancing act. The researcher has to choose between using a well-known and popular framework and using a branch, which more precisely describes the ability of a judge, that is considered to be relevant in advice taking, namely the *regulation of emotions*. As according to Mayer & Salovey (1997), the four branches of EI form a hierarchy with ROE at the top in which one branch builds upon the other, this study recommends using the complete framework of EI in further studies.

Within the cause of the explorative analysis, gender differences in advice taking were studied as well. Concordant with previous findings in the literature, women, on average, utilized more of the advice given to them than men did in this study. However, since the difference was not significant, this finding cannot be generalized beyond this study. It must thus be said that the advice taking of the judge does not depend on the judge's sex.

5 Conclusion

According to Gino and Schweitzer, decision-makers are at risk of "overweight[ing] bad advice and underweight[ing] good advice" (2008, p. 20, l. 5) when being under the influence of emotions. They base this warning on their finding regarding the influence of emotions on advice taking. They found that decision-makers experiencing incidental gratitude take more advice than decision-makers in a neutral emotional state and that decision-makers experiencing incidental anger take less advice than decision-makers in a neutral emotional state. People make numerous decisions every day, and for many of them, they receive advice before making the final decision. Depending on the emotional state of the decision-maker, the advice is, being treated differently, which influences the decision-maker's final decision. Concerning some decision contexts, this can have far-reaching consequences, which is why it should be in the general interest, that decision-makers can detach the experienced emotion from the decision at hand.

Emotional Intelligence (EI) embraces a person's ability to perceive one's own and other feelings and emotions, to use emotions to guide one's thinking and ultimately the ability to regulate the experienced emotions. EI has been identified as a moderator regarding the influence of emotions on risk-taking in previous research by Yip & Côte (2012). Based on this finding, this study investigated whether EI also moderates the effect of incidental other-focused positive and negative emotions (gratitude and anger) on advice taking. It was presumed that people high in EI recognize that they are influenced by an incidental emotion and can thus regulate it before making a decision.

The first objective of this research study was to find further evidence for the effect of the emotions gratitude and anger on advice taking that is to be found in the literature. The second objective was to close the research gap between findings on the influence of emotions on advice taking and the moderating role of EI by identifying whether the decision-maker's EI moderates the effect of the emotions gratitude and anger on advice taking.

An experiment with 152 participants was conducted on the crowdsourcing platform MTurk, in which participants had to estimate the weight of different people on pictures shown to them first without any advice and then again after advice was revealed to them. The difference between the initial estimate

and the final estimate relative to the advice given indicated the extent to which participants took advantage of the advice given to them. Before this task, participants were primed into three different emotional conditions. After the weight estimation task, participants were asked to complete the EI self-assessment test by Wong & Law (2002).

The results of the statistical analysis indicated that although participants experiencing incidental gratitude on average took more advice than participants in a neutral emotional state and participants experiencing incidental anger, the difference between these groups was not significant. The same was true for participants experiencing incidental anger. Even though on average, they took less advice than participants experiencing neutral feelings and participants experiencing incidental gratitude, differences were not significant here either. In their tendency, these results support the findings from the current literature. However, they are not significant, meaning that participants experiencing incidental gratitude, incidental anger, or neutral feelings do not show significant differences in their advice taking behavior.

Regarding the second research objective, results showed that other than hypothesized participants in the respective treatment groups with a high EI did not show less extreme advice taking behavior than participants with a low EI. It can be concluded that the judge's EI score does not moderate the relation between incidental other-focused emotions felt by the judge and the advice taking of the judge.

Based on this conclusion, theoretical and practical implications will be drawn in the next section. Critically reassessing the methodology used for this research project, the limitations of this study will be further highlighted, and based on that and based on the literature reviewed, ideas for future research projects will be given.

5.1 Theoretical and Practical Implications

This research study entails implications for science as well as practice. Concerning science, it contributes to the existing literature on advice taking and highlights the importance of dedicating further research resources towards this field of decision-making. The distinctive value of this work to science is that it studies a previously unconsidered influential factor of advice taking, namely EI. Even though EI was not identified as a moderator in the relationship between emotions and advice taking in this study, the theoretical model for the proposed hypotheses should give rise to further studies in this field.

Concerning practice, this research study underlines the importance of studying the influence of emotions on advice taking and what could potentially moderate this effect. Taking into account the number of decisions people make every day, it is interesting for individuals as well as corporates to comprehend why decision-makers discount or overweight the advice of others. This study showed that people experiencing a positive emotion utilize advice differently than people experiencing a negative emotion, although these differences were other than in previous studies not significant. For decisions with far-reaching consequences where advice is received from others, it should thus be a priority to make sure that the decision-maker is free of any emotional influences.

5.2 Limitations and Future Research

The limitations of the study constrain the contribution of this thesis to the research on advice taking. The experiment was designed carefully, and with reference to other studies within this research field. Nevertheless, some limitations have been identified that can, however, be taken as reference points for future research studies.

The data collection method used did not allow to observe the participants while conducting the experiment. It might have been the case that the participants got distracted while fulfilling the tasks and paused in the middle of it. In this case, the effect of the emotional priming task would most likely have worn off. It would thus be interesting to study whether a lab experiment would reveal stronger reported feelings among participants than an experiment over MTurk or any other online crowdsourcing platform.

Further, it should be considered that neither the decision itself nor the outcome of it was self-relevant for the participant. The task given to the participants was to estimate the weight of the person in the picture. It was assumed that most people have tried to get as close to the true value as possible. However, this cannot be said with certainty. Having offered participants a financial incentive for estimating the real weight of the person would have made the task more self-relevant for participants and thus might have depicted people's behavior in real advice taking situations in a better way. Future research should study advice taking behavior of people with and without a financial incentive in a weight estimation task or any other task that is not self-relevant in itself to find evidence for this presumption.

Mills & D'Mello (2014) studied autobiographical recall procedures for specific positive and negative emotions and found that when recalling a particular negative emotion like anger, other negative incidental emotions like disgust and sadness were evoked as well. It thus might be worth considering generalizing the findings for anger and gratitude to negative and positive emotions through future research.

As this study did not find any significant results for the moderating role of EI on the relation between emotions and advice taking, it might be interesting to consider different ways of measuring EI. The WLEIS used in this study is a self-assessment of EI and thus influenced by a social desirability bias. Having co-workers assess someone's EI instead is an approach that has been used by other researchers before and should be pursued in future research as well. Also, experiments should be conducted in different cultural settings to generalize findings on the moderating role of EI across cultures.

Goleman (1995) suggested that EI can be learned through training. If through future studies, a moderating role of EI on the relation between emotions and advice taking will be identified, further research should be done to explore this opportunity, which could, if successful, have far-reaching consequences for HR training strategies.

6 References

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7 Appendices

7.1 Zusammenfassung (deutsch)

Bei bevorstehenden wichtigen Entscheidungen konsultieren Menschen oft den Rat anderer. Untersuchungen haben gezeigt, dass die Berücksichtigung von Ratschlägen bei der finalen Entscheidung letztlich die Entscheidungsgenauigkeit verbessert. Es wurde jedoch auch festgestellt, dass Entscheidungsträger den erhaltenen Rat unterschiedlich stark in ihr Entscheidung einfließen lassen und dass dies von mehreren Einflussfaktoren abhängt, unter anderem zufällige, also nicht mit der Entscheidung zusammenhängende, Emotionen. Auf der Suche nach einem moderierenden Faktor, der die unerwünschte Wirkung von Emotionen auf die Annahme von Ratschlägen abschwächt, hat diese Studie das Verhalten von Menschen bezüglich der Annahme von Ratschlägen in drei verschiedenen emotionalen Zuständen (Dankbarkeit, Neutralität und Ärger) analysiert und gleichzeitig ihre Emotionale Intelligenz gemessen. Unter der Annahme, dass Menschen mit hoher Emotionaler Intelligenz die erlebte Emotion besser von der vorliegenden Entscheidung entkoppeln können als Menschen mit niedriger Emotionaler Intelligenz, schlug diese Studie vor, dass die Emotionale Intelligenz einer Person die Wirkung von Emotionen auf die Annahme von Ratschlägen mildert, d.h. dass die erstgenannten ein weniger extremes Verhalten bei der Annahme von Ratschlägen zeigen als die letztgenannten. Eine experimentelle Studie mit 152 Teilnehmern wurde über die Crowd-Sourcing-Plattform MTurk durchgeführt. Die Analyse der gesammelten Primärdaten konnte die Emotionale Intelligenz des Entscheidungsträgers nicht als Moderator im Verhältnis zwischen zufälligen Emotionen und der Annahme von Ratschlägen identifizieren. Diese Studie schließt mit einer kritischen Analyse der verwendeten Methodik und der Unterbreitung von zukünftigen Forschungsideen ab.

7.2 Wong and Law Emotional Intelligence Score (WLEIS) items

Self-emotion appraisal (SEA)
1. I have a good sense of why I have certain feelings most of the time.
2. I have good understanding of my own emotions.
3. I really understand what I feel.
4. I always know whether or not I am happy.

Others' emotion appraisal (OEA)
5. I always know my friends' emotions from their behavior.
6. I am a good observer of others' emotions.
7. I am sensitive to the feelings and emotions of others.
8. I have good understanding of the emotions of people around me.

Use of emotion (UOE
9. I always set goals for myself and then try my best to achieve them.
10. I always tell myself I am a competent person.
11. I am a self-motivated person.
12. I would always encourage myself to try my best.

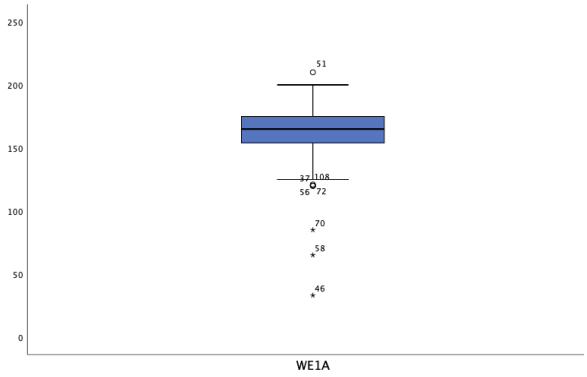
Regulation of emotion (ROE)
13. I am able to control my temper and handle difficulties rationally.
14. I am quite capable of controlling my own emotions.
15. I can always calm down quickly when I am very angry.
16. I have good control of my own emotions.

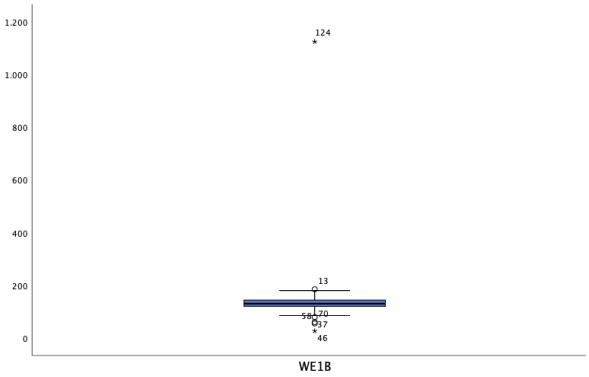
7.3 SPSS Output relevant for the Statistical Analysis

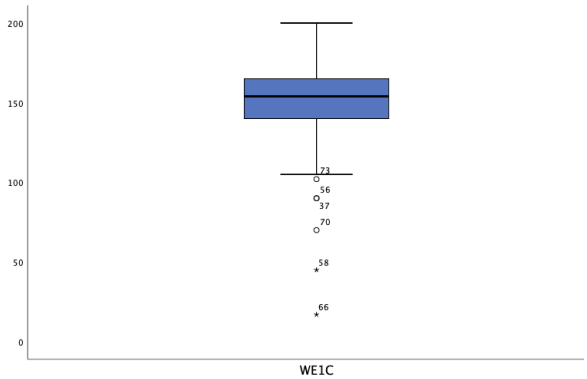
The appendix is structured in a way, that each chapter of the appendix corresponds with the chapter of the respective chapter in the statistical analysis.

7.3.1 Outlier identification

17 outliers within the weight estimate variables WE1A-E and WE2A-E were identified and consequently excluded from further analysis. The corresponding pair was also excluded as it would not be possible to calculate the advice taking variable with just one of the two weight estimates. The following box plots show which data entries lie three interquartile ranges (IQR) from the 25th percentile or the 75th percentile away and are thus identified as outliers (marked with *).


250
200
150
100
50
0
51
108
37
56
72
70
58
46
WE1A


1.200
1.000
800
600
400
200
0
124
13
58
70
37
46
WE1B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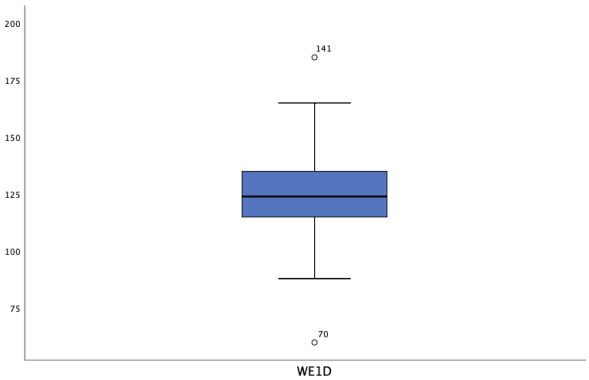
150
100
50
0
73
56
37
70
58
66
WE1C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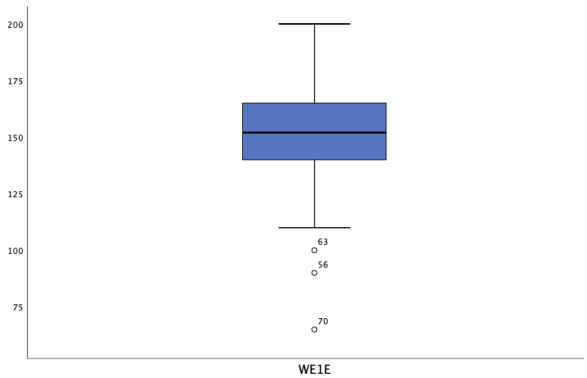
150
125
100
75
141
70
WE1D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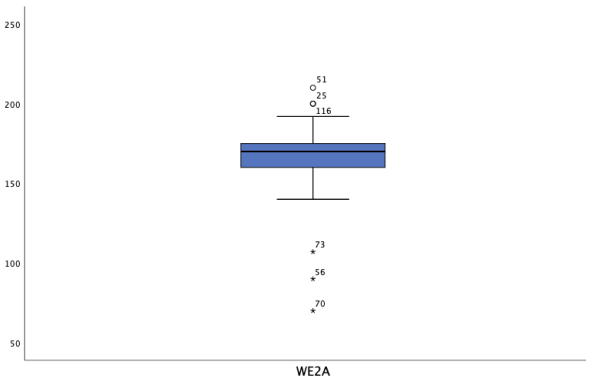
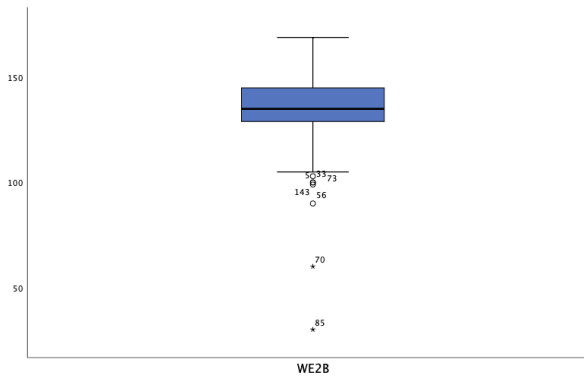
175
150
125
100
75
63
56
70
WE1E


250
200
150
100
50
51
25
116
73
56
70
WE2A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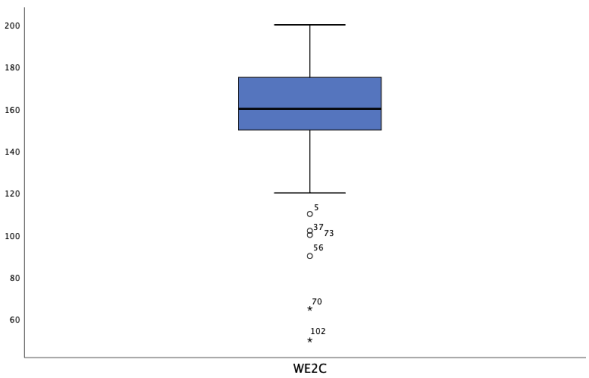
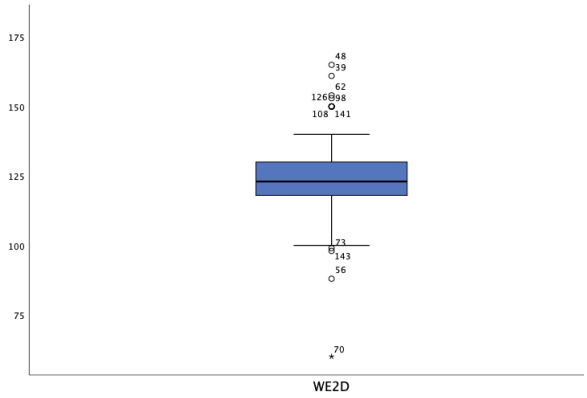
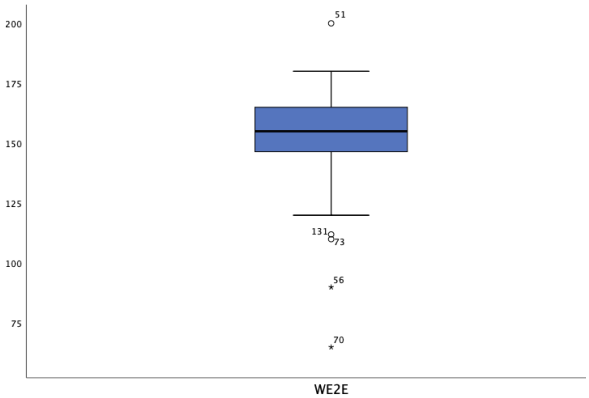
100
50
53
33
73
143
56
70
85
WE2B


200
180
160
140
120
100
80
60
5
37
73
56
70
102
WE2C





7.3.2 Internal Consistency of Scales

7.3.2.1 Gratitude Scale

Reliability Statistics

Cronbach's Alpha	N of Items
,958	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
GRATEFUL	8,30	34,813	,921	,931
APPRECIATIVE	8,19	35,943	,896	,949
THANKFUL	8,25	35,520	,916	,935

7.3.2.2 Neutral Scale

Reliability Statistics

Cronbach's Alpha	N of Items
,828	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
NEUTRAL	5,07	22,369	,721	,726
INDIFFERENT	5,46	21,637	,699	,748
UNEMOTIONAL	5,64	23,618	,637	,809

7.3.2.3 Anger Scale

Reliability Statistics

Cronbach's Alpha	N of Items
,962	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
ANGRY	4,85	33,965	,920	,943
FURIOUS	4,79	35,204	,903	,955
MAD	4,80	34,600	,934	,933

7.3.2.4 SEA Scale

Reliability Statistics

Cronbach's Alpha	N of Items
,821	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
SEA1	16,13	8,124	,716	,743
SEA2	16,07	7,641	,745	,726
SEA3	16,14	8,054	,679	,758
SEA4	16,21	8,888	,462	,860

7.3.2.5 OEA Scale

Reliability Statistics

Cronbach's Alpha	N of Items
,834	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
OEA1	15,33	11,210	,637	,802
OEA2	15,21	10,715	,760	,748
OEA3	15,24	12,103	,521	,850
OEA4	15,41	10,017	,750	,749

7.3.2.6 UOE Scale

Reliability Statistics

Cronbach's Alpha	N of Items
,668	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
UOE1	16,10	6,757	,409	,628
UOE2	16,42	4,939	,464	,608
UOE3	16,05	6,104	,487	,578
UOE4	16,05	6,251	,469	,590

7.3.2.7 ROE Scale

Reliability Statistics

Cronbach's Alpha	N of Items
,830	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
ROE1	15,44	9,342	,716	,762
ROE2	15,41	9,350	,788	,737
ROE3	15,91	9,599	,442	,904
ROE4	15,46	8,903	,771	,736

7.3.2.8 EI Scale

Reliability Statistics

Cronbach's Alpha	N of Items
,790	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
SEA_scale	15,6705	5,284	,629	,723
OEA_scale	15,9503	5,273	,483	,807
UOE_scale	15,6639	5,727	,672	,716
ROE_scale	15,8642	4,954	,656	,707

7.3.3 Success of Emotional Priming

7.3.3.1 Gratitude Condition

Assumptions for paired sample t-test:

- ✓ Related observations: related since answer to the gratitude, neutral and anger scale are given by the same participant in the gratitude condition
- ✓ Normal distribution: given for sample sizes > 30

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Gratitude_scale	51	1,33	8,00	6,4183	1,84131
Neutral_scale	51	,00	7,00	2,1634	2,16577
Anger_scale	51	,00	7,00	1,0458	1,86669
Valid N (listwise)	51				

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Gratitude_scale - Neutral_scale	4,25490	3,39188	,47496	3,30092	5,20888	8,958	50	,000
Pair 2	Gratitude_scale - Anger_scale	5,37255	2,95345	,41357	4,54188	6,20322	12,991	50	,000

Correlations

		Gratitude_scale	Neutral_scale	Anger_scale
Gratitude_scale	Pearson Correlation	1	-,429**	-,269
	Sig. (2-tailed)		,002	,056
	N	51	51	51
Neutral_scale	Pearson Correlation	-,429**	1	,621**
	Sig. (2-tailed)	,002		,000
	N	51	51	51
Anger_scale	Pearson Correlation	-,269	,621**	1
	Sig. (2-tailed)	,056	,000	
	N	51	51	51

**. Correlation is significant at the 0.01 level (2-tailed).

7.3.3.2 Neutral Condition

Assumptions for paired sample t-test:

- ✓ Related observations: related since answer to the gratitude, neutral and anger scale are given by the same participant in the neutral condition
- ✓ Normal distribution: given for sample sizes > 30

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Gratitude_scale	50	,00	8,00	4,3467	2,53409
Neutral_scale	50	,67	8,00	4,1667	1,97174
Anger_scale	50	,00	8,00	1,1600	2,01045
Valid N (listwise)	50				

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Neutral_scale - Gratitude_scale	-,18000	3,68376	,52096	-1,22691	,86691	-,346	49	,731
Pair 2	Neutral_scale - Anger_scale	3,00667	2,27327	,32149	2,36061	3,65272	9,352	49	,000

Correlations

		Neutral_scale	Gratitude_scale	Anger_scale
Neutral_scale	Pearson Correlation	1	-,326*	,348*
	Sig. (2-tailed)		,021	,013
	N	50	50	50
Gratitude_scale	Pearson Correlation	-,326*	1	,448**
	Sig. (2-tailed)	,021		,001
	N	50	50	50
Anger_scale	Pearson Correlation	,348*	,448**	1
	Sig. (2-tailed)	,013	,001	
	N	50	50	50

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

7.3.3.3 Anger Condition

Assumptions for paired sample t-test:

- ✓ Related observations: related since answer to the gratitude, neutral and anger scale are given by the same participant in the anger condition
- ✓ Normal distribution: given for sample sizes > 30

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Gratitude_scale	50	,00	7,00	1,5600	2,10651
Neutral_scale	50	,00	6,67	1,7667	1,95557
Anger_scale	50	,00	8,00	5,0467	2,78481
Valid N (listwise)	50				

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Anger_scale - Gratitude_scale	3,48667	3,93151	,55600	2,36935	4,60399	6,271	49	,000
Pair 2	Anger_scale - Neutral_scale	3,28000	3,81271	,53920	2,19644	4,36356	6,083	49	,000

Correlations

		Anger_scale	Gratitude_scale	Neutral_scale
Anger_scale	Pearson Correlation	1	-,278	-,272
	Sig. (2-tailed)		,050	,056
	N	50	50	50
Gratitude_scale	Pearson Correlation	-,278	1	,554**
	Sig. (2-tailed)	,050		,000
	N	50	50	50
Neutral_scale	Pearson Correlation	-,272	,554**	1
	Sig. (2-tailed)	,056	,000	
	N	50	50	50

**. Correlation is significant at the 0.01 level (2-tailed).

7.3.3.4 Emotional Intelligence and reported emotions

Statistics

EI

N	Valid	151
	Missing	0
Mean		5,2624
Median		5,5625
Mode		6,00
Std. Deviation		,74250
Percentiles	25	4,8750
	50	5,5625
	75	5,8750

Coding all participants with an EI score of 5.5625 (median) and above as 1 = high EI and all participants with an EI below 5.5625 as 0 = low EI, results in the following distribution.

*EI_relative * CON Crosstabulation*

Count

		CON			
		Gratitude	Neutral	Anger	Total
EI_relative	low EI	24	22	25	71
	high EI	27	28	25	80
Total		51	50	50	151

7.3.3.4.1 Gratitude Condition

Assumptions for Independent Samples t-test:

- ✓ Independent samples: each participant can either be assigned to the high EI or the low EI group
- ✓ Normal distribution: given for sample sizes > 30
- ✓ Homogeneity of variance: Levene's test (0.052) → no significant value obtained, hence homogeneity is given

Group Statistics

	EI_relative	N	Mean	Std. Deviation	Std. Error Mean
Gratitude_scale	low EI	24	5,9028	2,04415	,41726
	high EI	27	6,8765	1,53631	,29566

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Gratitude_scale	Equal variances assumed	3,965	,052	-1,936	49	,059	-,97377	,50292	-1,98443	,03690

7.3.3.4.2 Anger Condition

Assumptions for Independent Samples t-test:

- ✓ Independent samples: each participant can either be assigned to the high EI or the low EI group
- ✓ Normal distribution: given for sample sizes > 30
- ✓ Homogeneity of variance: Levene's test (0.421) → no significant value obtained, hence homogeneity is given

Group Statistics

	EI_relative	N	Mean	Std. Deviation	Std. Error Mean
Anger_scale	low EI	25	4,8533	2,61243	,52249
	high EI	25	5,2400	2,98843	,59769

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Anger_scale	Equal variances assumed	,660	,421	-,487	48	,628	-,38667	,79387	-1,98284	1,20951

7.3.4 Influence of Emotions on Advice Taking

7.3.4.1 WOA formula by Yaniv (2004a)

Assumptions for One-Way ANOVA:

- ✓ Independent observations: each participant was only assigned to one of the three treatment groups gratitude, neutral or anger
- ✓ Normal distribution: given for sample sizes > 30
- ✓ Homogeneity of variance is violated: Levene's test (0.029) shows that homogeneity of variance is not given. However, since sample sizes are very similar (gratitude (n=51); neutral (n=50); anger (n=50)) ANOVA is fairly robust against this violation.

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
WOA_mean	Based on Mean	3,634	2	148	,029
	Based on Median	3,403	2	148	,036
	Based on Median and with adjusted df	3,403	2	126,704	,036
	Based on trimmed mean	3,531	2	148	,032

Descriptives

WOA_mean

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1	51	,3116	,19792	,02771	,2559	,3673	,00	1,00
2	50	,2693	,20363	,02880	,2115	,3272	,00	,72
3	50	,2833	,13995	,01979	,2435	,3230	,00	,59
Total	151	,2882	,18252	,01485	,2589	,3176	,00	1,00

ANOVA

WOA_mean

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	,047	2	,023	,702	,497
Within Groups	4,950	148	,033		
Total	4,997	150			

7.3.4.2 Advice Taking formula by Harvey and Fischer (1997)

Assumptions for One-Way ANOVA:

- ✓ Independent observations: each participant was only assigned to one of the three treatment groups gratitude, neutral or anger
- ✓ Normal distribution: given for sample sizes > 30
- ✓ Homogeneity of variance: Levene's test (0.197) → no significant value obtained, hence homogeneity is given

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Advice_Taking_mean	Based on Mean	1,642	2	148	,197
	Based on Median	1,334	2	148	,267
	Based on Median and with adjusted df	1,334	2	126,037	,267
	Based on trimmed mean	1,455	2	148	,237

Descriptives

Advice_Taking_mean

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1,00	51	,3057	,26876	,03763	,2301	,3813	-,41	1,40
2,00	50	,2752	,31607	,04470	,1854	,3650	-,19	1,74
3,00	50	,2444	,20290	,02869	,1867	,3021	-,25	,73
Total	151	,2753	,26607	,02165	,2325	,3181	-,41	1,74

ANOVA

Advice_Taking_mean

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	,095	2	,047	,667	,515
Within Groups	10,524	148	,071		
Total	10,619	150			

7.3.5 Moderating Role of Emotional Intelligence

7.3.5.1 3 x 2 Factorial ANOVA

Statistics

EI

N	Valid	151
	Missing	0
Mean		5,2624
Median		5,5625
Mode		6,00
Std. Deviation		,74250
Percentiles	25	4,8750
	50	5,5625
	75	5,8750

All participants with an EI score of 5.5625 (median) and above were coded as 1 = high EI and all participants with an EI below 5.5625 as 0 = low EI.

Assumptions for Factorial ANOVA:

- ✓ Independent observations: each participant was only assigned to one of the three treatment groups gratitude, neutral or anger and either to low EI (0) or high EI (1)
- ✓ Normal distribution: given for sample sizes > 30
- ✓ Homogeneity of variance: Levene's test (0.057) → no significant value obtained, hence homogeneity is given

Between-Subjects Factors

		Value Label	N
CON	1	Gratitude	51
	2	Neutral	50
	3	Anger	50
EI_relative	,00	low EI	71
	1,00	high EI	80

Descriptive Statistics

Dependent Variable: WOA_mean

CON	EI_relative	Mean	Std. Deviation	N
Gratitude	low EI	,3038	,15711	24
	high EI	,3186	,23106	27
	Total	,3116	,19792	51
Neutral	low EI	,2057	,15418	22
	high EI	,3193	,22555	28
	Total	,2693	,20363	50
Anger	low EI	,2749	,15144	25
	high EI	,2916	,13004	25
	Total	,2833	,13995	50
Total	low EI	,2632	,15735	71
	high EI	,3104	,20064	80
	Total	,2882	,18252	151

Levene's Test of Equality of Error Variances[a,b]

		Levene Statistic	df1	df2	Sig.
WOA_mean	Based on Mean	2,207	5	145	,057
	Based on Median	1,808	5	145	,115
	Based on Median and with adjusted df	1,808	5	99,035	,118
	Based on trimmed mean	2,102	5	145	,068

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Dependent variable: WOA_mean

b. Design: Intercept + CON + EI_relative + CON * EI_relative

Tests of Between-Subjects Effects

Dependent Variable: WOA_mean

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	,212[a]	5	,042	1,286	,273
Intercept	12,245	1	12,245	371,088	,000
CON	,060	2	,030	,906	,407
EI_relative	,088	1	,088	2,656	,105
CON * EI_relative	,079	2	,040	1,203	,303
Error	4,785	145	,033		
Total	17,541	151			
Corrected Total	4,997	150			

a. R Squared = ,042 (Adjusted R Squared = ,009)

7.3.5.2 3 x 3 Factorial ANOVA

Statistics

EI

N	Valid	151
	Missing	0
Mean		5,2624
Median		5,5625
Mode		6,00
Std. Deviation		,74250
Percentiles	25	4,8750
	50	5,5625
	75	5,8750

All participants with an EI score below 4.8750 (25th percentile) were coded as -1 = low EI, while the ones with an EI score above 5.8750 (75th percentile) were coded as 1 = high EI. All participants with an EI score between the 4.8750 and 5.8750 were coded as 0 = medium EI.

Assumptions for Factorial ANOVA:

- ✓ Independent observations: each participant was only assigned to one of the three treatment groups gratitude, neutral or anger and either to low EI (-1) or normal EI (0) or high EI (1)
- ✓ Normal distribution: given for sample sizes > 30
- ✓ Homogeneity of variance: Levene's test (0.251) → no significant value obtained, hence homogeneity is given

Between-Subjects Factors

		Value Label	N
CON	1	Gratitude	51
	2	Neutral	50
	3	Anger	50
EI_relative_alternative	-1,00	low EI	38
	,00	medium EI	71
	1,00	high EI	42

Descriptive Statistics

Dependent Variable: WOA_mean

CON	EI_relative_alternative	Mean	Std. Deviation	N
Gratitude	low EI	,2916	,19620	14
	medium EI	,3429	,22655	20
	high EI	,2913	,16785	17
	Total	,3116	,19792	51
Neutral	low EI	,2237	,16661	9
	medium EI	,2563	,18904	27
	high EI	,3238	,25048	14
	Total	,2693	,20363	50
Anger	low EI	,2948	,15081	15
	medium EI	,2841	,13834	24
	high EI	,2656	,13989	11
	Total	,2833	,13995	50
Total	low EI	,2768	,17039	38
	medium EI	,2901	,18639	71
	high EI	,2954	,19022	42
	Total	,2882	,18252	151

Levene's Test of Equality of Error Variances[a,b]

		Levene Statistic	df1	df2	Sig.
WOA_mean	Based on Mean	1,295	8	142	,251
	Based on Median	1,177	8	142	,317
	Based on Median and with adjusted df	1,177	8	98,341	,321
	Based on trimmed mean	1,275	8	142	,261

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Dependent variable: WOA_mean

b. Design: Intercept + CON + EI_relative_alternative + CON * EI_relative_alternative

Tests of Between-Subjects Effects

Dependent Variable: WOA_mean

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	,150[a]	8	,019	,548	,819
Intercept	11,060	1	11,060	323,999	,000
CON	,040	2	,020	,579	,562
EI_relative_alternative	,016	2	,008	,232	,793
CON * EI_relative_alternative	,093	4	,023	,681	,606
Error	4,848	142	,034		
Total	17,541	151			
Corrected Total	4,997	150			

a. R Squared = ,030 (Adjusted R Squared = -,025)

7.3.5.3 Multiple Linear Regression

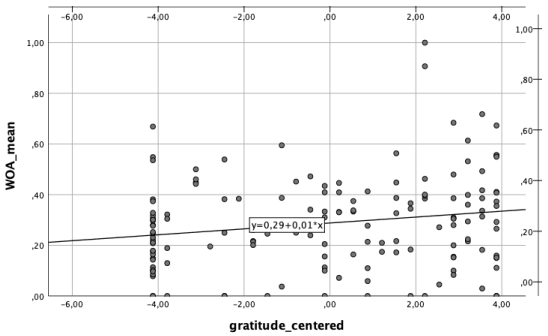
The interaction effect of Gratitude_scale and EI as well as Anger_scale and EI is supposed to be studied in this linear regression analysis besides the main effects of Gratitude_scale, Anger_scale and EI on WOA_mean. Therefore, the two interaction terms Gratitude_EI and Anger_EI were calculated.

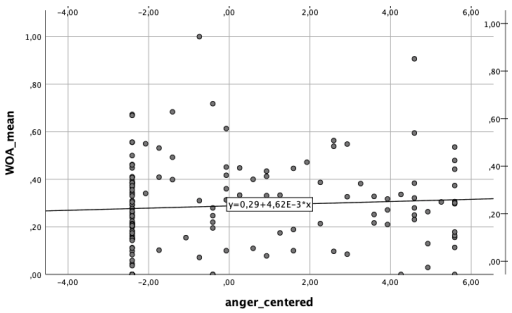
The predictor variables for this regression analysis will be referred to as following:

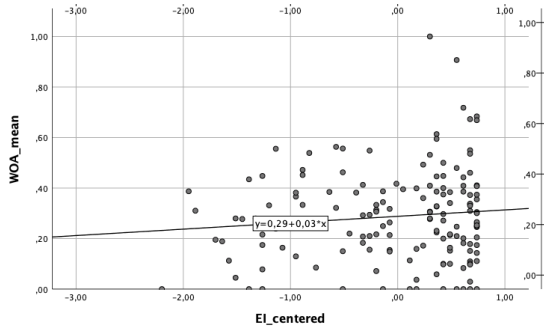
Gratitude_scale	X_1
Anger_scale	X_2
EI	X_3
Gratitude_EI (Interaction term)	X_4
Anger_EI (Interaction term)	X_5

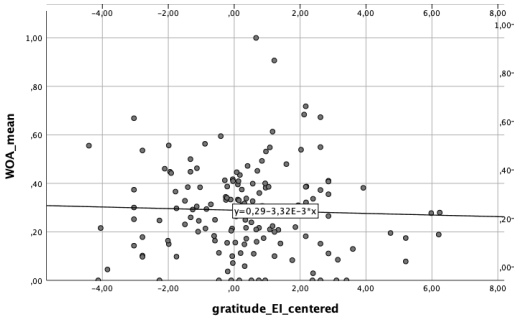
Assumptions for a multiple linear regression:

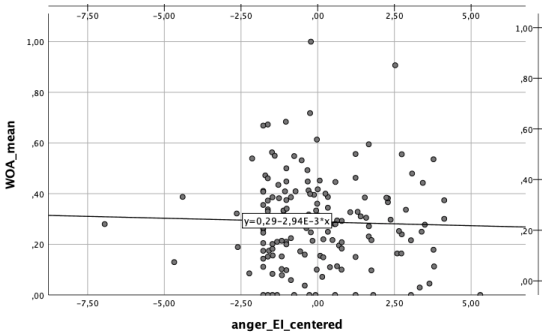
- ✓ Continuous outcome variable and predictors: predictors $X_1 – X_5$ as well as WOA_mean are all continuous
- ✓ Non-Zero variance
- ✓ Additivity and linearity: looking at the partial regression plots, it can be seen that the predictors X_1, X_2 and X_3 have a positive linear relationship with WOA_mean, whereas the interaction terms X_4 and X_5 have a negative linear relationship.











- ✓ Independence of observations: all participants took the experiment independently from each other
- ✓ No multicollinearity: High collinearity was identified between X_1 and X_4 (r = (0.980) and X_2 and X_5 (r = 0.988), which is why all predictors were centered and new interaction terms with centered variables were calculated.

Correlations

		X_1	X_2	X_3	X_4	X_5	WOA_mean
X_1	Pearson Correlation	1	-,409**	,170*	,980**	-,377**	,188*
	Sig. (2-tailed)		,000	,037	,000	,000	,021
	N	151	151	151	151	151	151
X_2	Pearson Correlation	-,409**	1	,002	-,385**	,988**	,074
	Sig. (2-tailed)	,000		,977	,000	,000	,368
	N	151	151	151	151	151	151
X_3	Pearson Correlation	,170*	,002	1	,324**	,103	,103
	Sig. (2-tailed)	,037	,977		,000	,209	,207
	N	151	151	151	151	151	151
X_4	Pearson Correlation	,980**	-,385**	,324**	1	-,345**	,190*
	Sig. (2-tailed)	,000	,000	,000		,000	,019
	N	151	151	151	151	151	151
X_5	Pearson Correlation	-,377**	,988**	,103	-,345**	1	,079
	Sig. (2-tailed)	,000	,000	,209	,000		,337
	N	151	151	151	151	151	151
WOA_mean	Pearson Correlation	,188*	,074	,103	,190*	,079	1
	Sig. (2-tailed)	,021	,368	,207	,019	,337	
	N	151	151	151	151	151	151

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

After centring the predictors X_1, X_2 and X_3 and computing new interaction terms, none of the predictors are highly correlated anymore (Pearson's $r < 0.8$)

Correlations

		X_1	X_2	X_3	X_4	X_5	V
X_1	Pearson Correlation	1	-,409**	,170*	,124	-,034	
	Sig. (2-tailed)		,000	,037	,130	,682	
	N	151	151	151	151	151	
X_2	Pearson Correlation	-,409**	1	,002	-,032	,239**	
	Sig. (2-tailed)	,000		,977	,699	,003	
	N	151	151	151	151	151	
X_3	Pearson Correlation	,170*	,002	1	-,160*	-,096	
	Sig. (2-tailed)	,037	,977		,050	,243	
	N	151	151	151	151	151	
X_4	Pearson Correlation	,124	-,032	-,160*	1	-,439**	
	Sig. (2-tailed)	,130	,699	,050		,000	
	N	151	151	151	151	151	
X_5	Pearson Correlation	-,034	,239**	-,096	-,439**	1	

	Sig. (2-tailed)	,682	,003	,243	,000		,711
	N	151	151	151	151	151	151
WOA_mean	Pearson Correlation	,188*	,074	,103	-,037	-,030	1
	Sig. (2-tailed)	,021	,368	,207	,654	,711	
	N	151	151	151	151	151	151

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed)

✓ Independence of errors: A Durbin-Watson test with a value of 2.105 indicates that there is no autocorrelation, i.e. the residual terms of the independent variables of the model are not correlated

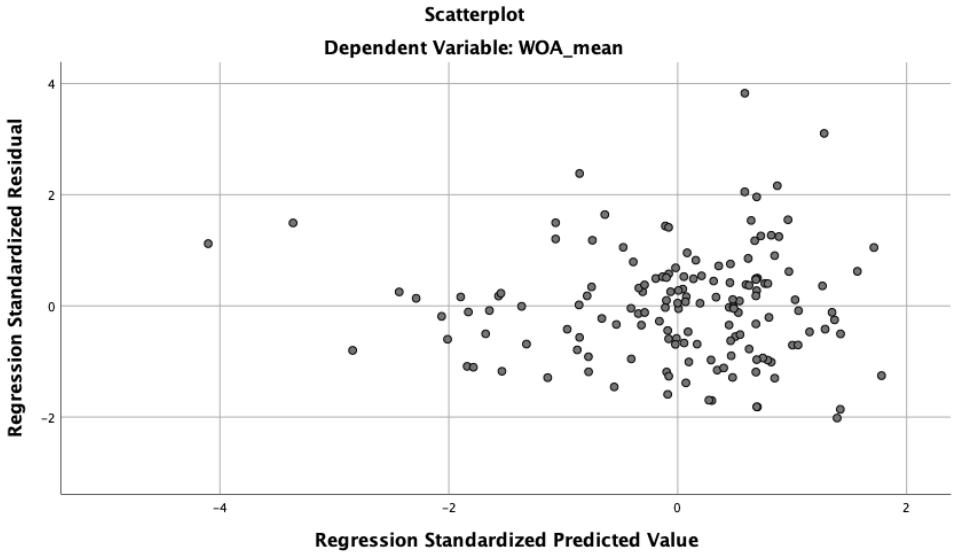
Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,281[a]	,079	,047	,17817	2,105

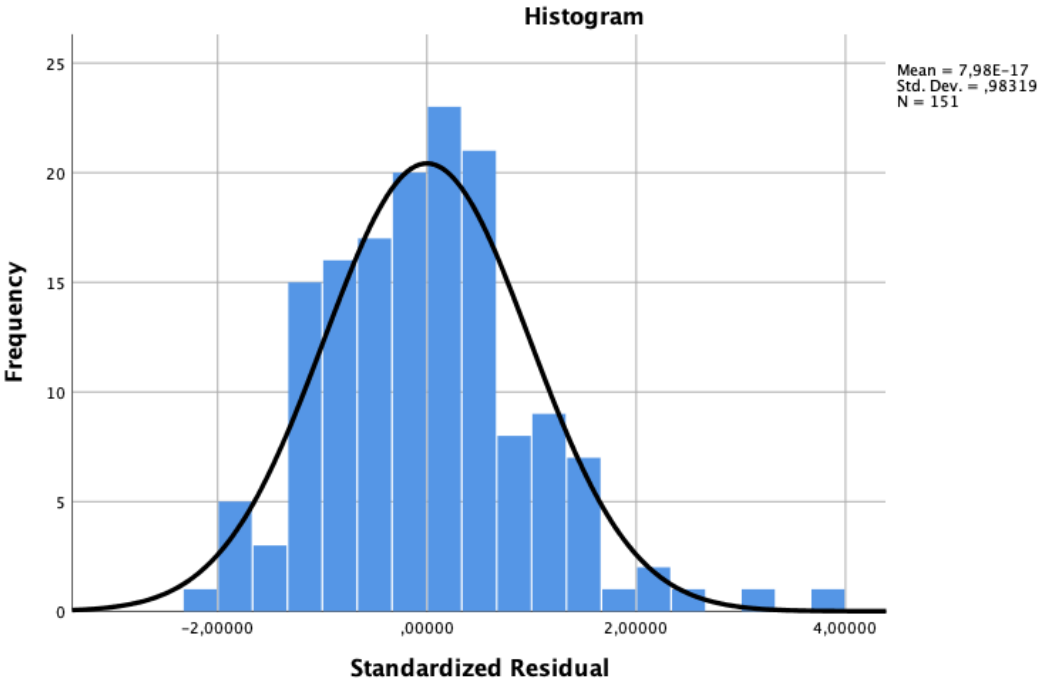
a. Predictors: (Constant), anger_EI_centered, gratitude_centered, EI_centered, anger_centered, gratitude_EI_centered

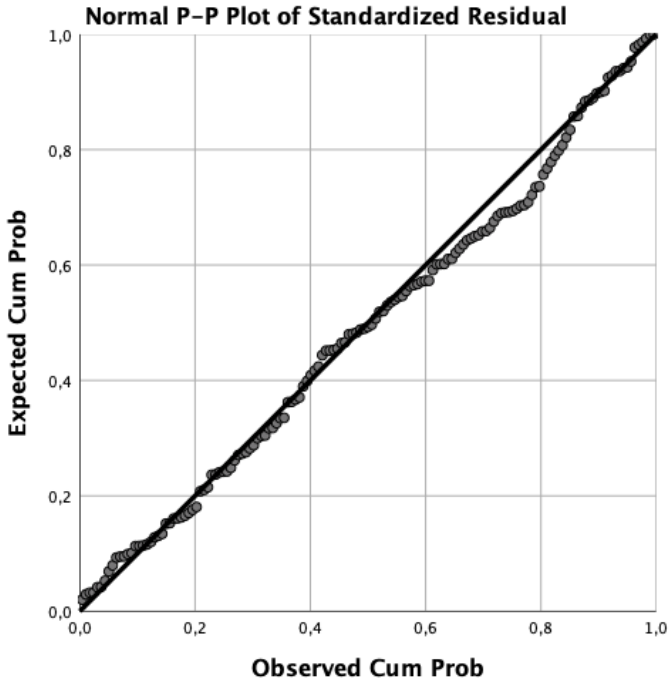
b. Dependent Variable: WOA_mean

✗ Homoscedasticity: Heteroscedasticity occurs if the variances of the residual terms are unequal across the levels of the predictor variables or follow some pattern. The scatterplot shows that the data points are not evenly dispersed throughout the plot and thus, homoscedasticity cannot be assumed.



✓ Normality of residuals: The Histogram and the P Plot show that normality is given


Histogram
Mean = 7,98E-17
Std. Dev. = ,98319
N = 151
Frequency
25
20
15
10
5
0
-2,00000
,00000
2,00000
4,00000
Standardized Residual


Normal P-P Plot of Standardized Residual
Expected Cum Prob
1,0
0,8
0,6
0,4
0,2
0,0
0,0
0,2
0,4
0,6
0,8
1,0
Observed Cum Prob

As a consequence of violating the assumption of homoscedasticity, the following problems arise: first of all, the model estimates (β) are valid but not optimal and secondly, confidence intervals and significance tests are invalid. Hence, a robust regression was conducted with bootstrapping in order to obtain confidence intervals and *p*-values which do not rely on assumptions of homoscedasticity.

Robust Regression

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,281[a]	,079	,047	,17817

a. Predictors: (Constant), anger_EI_centered, gratitude_centered, EI_centered, anger_centered, gratitude_EI_centered

b. Dependent Variable: WOA_mean

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	,394	5	,079	2,484	,034[b]
	Residual	4,603	145	,032		
	Total	4,997	150			

a. Dependent Variable: WOA_mean

b. Predictors: (Constant), anger_EI_centered, gratitude_centered, EI_centered, anger_centered, gratitude_EI_centered

Coefficients[a]

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	,292	,015		19,681	,000
	X_1	,017	,006	,281	3,062	,003
	X_2	,013	,006	,213	2,314	,022
	X_3	,006	,021	,026	,301	,764
	X_4	-,010	,008	-,113	-1,202	,231
	X_5	-,012	,009	-,119	-1,251	,213

a. Dependent Variable: WOA_mean

Bootstrap for Coefficients

Model		B	Bootstrap[a] Bias	Std. Error	Sig. (2-tailed)	95% Confidence Interval Lower	Upper
1	(Constant)	,292	,000	,015	,001	,264	,321
	X_1	,017	,001	,006	,009	,006	,030
	X_2	,013	,000	,006	,025	,002	,025
	X_3	,006	-,002	,020	,758	-,035	,044
	X_4	-,010	,000	,009	,289	-,028	,007
	X_5	-,012	7,618E-5	,009	,222	-,031	,006

a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Bootstrapping results show that X_3, X_4 and X_5 do not have a significant effect on WOA_mean. However, the extent to which an ad appeals to emotion (b = 5.18, p = .001) and the relative advertising budget invested for an ad (b = 0.36, p = .001) both have a significantly positive impact on brand awareness change whereas the communication competitiveness in the product category (b = -2.56, p = .045) has a significantly negative impact.

7.3.6 Regulation of Emotion as Key Branch of Emotional Intelligence

7.3.6.1 2x3 Factorial ANOVA

Statistics

ROE_scale

N	Valid	151
	Missing	0
Mean		5,1854
Median		5,5000
Mode		6,00
Percentiles	25	4,7500
	50	5,5000
	75	6,0000

All participants with an ROE score of 5.5 (median) and above were coded as 1 = high ROE and all participants with an ROE below 5.5 as 0 = low EI.

Assumptions for Factorial ANOVA:

- ✓ Independent observations: each participant was only assigned to one of the three treatment groups gratitude, neutral or anger and either to low ROE (0) or high ROE (1)
- ✓ Normal distribution: given for sample sizes > 30

- ✓ Homogeneity of variance: Levene's test (0.04) → significant value obtained and hence no homogeneity of variance given. However, since sample sizes are fairly equal, Factorial ANOVA is robust against this violation

Between-Subjects Factors

		Value Label	N
CON	1	Gratitude	51
	2	Neutral	50
	3	Anger	50
ROE_relative	,00	low ROE	70
	1,00	high ROE	81

Descriptive Statistics

Dependent Variable: WOA_mean

CON	ROE_relative	Mean	Std. Deviation	N
Gratitude	low ROE	,2850	,14980	25
	high ROE	,3372	,23540	26
	Total	,3116	,19792	51
Neutral	low ROE	,2018	,15329	21
	high ROE	,3182	,22336	29
	Total	,2693	,20363	50
Anger	low ROE	,2945	,13639	24
	high ROE	,2728	,14506	26
	Total	,2833	,13995	50
Total	low ROE	,2633	,14992	70
	high ROE	,3097	,20510	81
	Total	,2882	,18252	151

Levene's Test of Equality of Error Variances[a,b]

		Levene Statistic	df1	df2	Sig.
WOA_mean	Based on Mean	2,398	5	145	,040
	Based on Median	1,884	5	145	,101
	Based on Median and with adjusted df	1,884	5	106,466	,103
	Based on trimmed mean	2,328	5	145	,046

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Dependent variable: WOA_mean

b. Design: Intercept + CON + ROE_relative + CON * ROE_relative

Tests of Between-Subjects Effects

Dependent Variable: WOA_mean

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	,252[a]	5	,050	1,543	,180
Intercept	12,143	1	12,143	371,104	,000
CON	,065	2	,033	,996	,372
ROE_relative	,090	1	,090	2,738	,100
CON * ROE_relative	,118	2	,059	1,799	,169
Error	4,745	145	,033		
Total	17,541	151			
Corrected Total	4,997	150			

a. R Squared = ,051 (Adjusted R Squared = ,018)

7.3.6.2 3x3 Factorial ANOVA

Statistics

ROE_scale

N	Valid	151
	Missing	0
Mean		5,1854
Median		5,5000
Mode		6,00
Percentiles	25	4,7500
	50	5,5000
	75	6,0000

All participants with an ROE score below 4.75 (25th percentile) were coded as -1 = low ROE, while the ones with an EI score of 6.00 (75th percentile) were coded as 1 = high EI. All participants with an EI score between the 4.75 and 6.00 were coded as 0 = medium EI.

Assumptions for Factorial ANOVA:

- ✓ Independent observations: each participant was only assigned to one of the three treatment groups gratitude, neutral or anger and either to low ROE (-1) or normal ROE (0) or high ROE (1)
- ✓ Normal distribution: given for sample sizes > 30
- ✓ Homogeneity of variance: Levene's test (0.023) → significant value obtained and hence no homogeneity of variance given. However, since sample sizes are fairly equal (N around 50), Factorial ANOVA is robust against this violation

Between-Subjects Factors

		Value Label	N
CON	1	Gratitude	51
	2	Neutral	50
	3	Anger	50
ROE_relative_alternative	-1,00	low ROE	42
	,00	medium ROE	60
	1,00	high ROE	49

Descriptive Statistics

Dependent Variable: WOA_mean

CON	ROE_relative_alternative	Mean	Std. Deviation	N
Gratitude	low ROE	,2868	,18184	14
	medium ROE	,3364	,25154	22
	high ROE	,2984	,11187	15
	Total	,3116	,19792	51
Neutral	low ROE	,1907	,13829	12
	medium ROE	,2520	,20125	21
	high ROE	,3462	,22779	17
	Total	,2693	,20363	50
Anger	low ROE	,2852	,12548	16
	medium ROE	,2935	,16752	17
	high ROE	,2712	,12995	17
	Total	,2833	,13995	50
Total	low ROE	,2587	,15255	42
	medium ROE	,2947	,21251	60
	high ROE	,3056	,16612	49
	Total	,2882	,18252	151

Levene's Test of Equality of Error Variances[a,b]

		Levene Statistic	df1	df2	Sig.
WOA_mean	Based on Mean	2,311	8	142	,023
	Based on Median	1,912	8	142	,063
	Based on Median and with adjusted df	1,912	8	92,806	,067
	Based on trimmed mean	2,200	8	142	,031

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Dependent variable: WOA_mean

b. Design: Intercept + CON + ROE_relative_alternative + CON * ROE_relative_alternative

Tests of Between-Subjects Effects

Dependent Variable: WOA_mean

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	,257[a]	8	,032	,963	,467
Intercept	11,844	1	11,844	354,844	,000
CON	,047	2	,024	,709	,494
ROE_relative_alternative	,064	2	,032	,955	,387
CON * ROE_relative_alternative	,153	4	,038	1,148	,336
Error	4,740	142	,033		
Total	17,541	151			
Corrected Total	4,997	150			

a. R Squared = ,051 (Adjusted R Squared = -,002)

7.3.7 Sex differences in Advice Taking

Assumptions for Independent Samples t-test:

- ✓ Independent samples: each participant can either be assigned to the high EI or the low EI group
- ✓ Normal distribution: given for sample sizes > 30
- ✓ Homogeneity of variance: Levene's test (0.455) → no significant value obtained, hence homogeneity is given

Group Statistics

	SEX	N	Mean	Std. Deviation	Std. Error Mean
WOA_mean	female	66	,3115	,18701	,02302
	male	85	,2701	,17796	,01930

Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means						
								95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
WOA_mean	,560	,455	1,385	149	,168	,04134	,02985	-,01765	,10033