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Trust in Self, Trust in Others: The Impact of Emotions on Advice Behavior

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TRUST IN SELF, TRUST IN OTHERS: THE IMPACT OF
EMOTIONS ON ADVICE BEHAVIOR

A Dissertation
Presented to
the Graduate School of
Clemson University

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy
Industrial-Organizational Psychology

by
Benjamin Henry Slade
December 2014

Accepted by:
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ABSTRACT

This dissertation proposes that task-specific self-confidence, trust in motives, and trust in competency are the three main drivers for advice use and willingness to pay for advice. After developing this general argument, the paper then focuses on how emotions influence advice use and willingness to pay for advice. Furthermore, this paper argues that the influence of emotions on advice is partially mediated by task specific self-confidence, trust in motives, and trust in competency. This model elaborates on the underlying emotional mechanisms which may guide the mediation paths, and then tests this expected pattern with four different incidental emotions; regret, pride, anger, and gratitude.

Four of the studies' six hypotheses regarding trust, self-confidence, and advice behavior were supported. The expected relationships between incidental emotions, mediators, and outcomes did not materialize, suggesting that emotions may need to rise to a certain level of salience in order to impact advice behavior. Implications of these findings are discussed.

DEDICATION

To my wife, Anna. This was only possible through your faithful and unwavering support. I love you.

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CHAPTER ONE

INTRODUCTION

Decision makers (“Judges”) will often seek the opinion of one or more advisors in order to improve the quality of the final decision. People make many decisions with incomplete information, and therefore rely on the perspectives of others to make sense of situational cues (Yates, Price, Lee, & Ramirez, 1996; Zarnoth & Sniezek, 1997). People routinely receive advice on decisions ranging in importance from mundane (“Where should I eat lunch?”) to life-changing (“Should I buy a house?”).

The field of advice research has rapidly expanded in the past two decades (e.g. Dalal & Bonaccio, 2010; Patt, Bowles & Cash, 2006; Sniezek, Schrah, & Dalal, 2004; Yaniv, 2004; Yaniv & Kleinberger, 2000). While there was substantial research on small group decision making in earlier decades (e.g. Schweiger, Sandberg, & Regan, 1986), it typically focused on leaderless groups (Kerr & Tindale, 2004). Leaderless group lab studies do not accurately portray the social context of typical decision situations, since many real-world groups have a primary decision maker (Kerr & Tindale, 2004; Payne, Bettman, & Johnson, 1992).

Seeking and using advice typically improves decision accuracy (Dolan, Elliot, Metcalfe, & Vlaev, 2012; Patt et al., 2006; Sniezek et al., 2004; Yaniv, 2004; Yaniv & Kleinberger, 2000). Judges that seek advice from one or more advisors can assess the quality of this advice and integrate the advice with his or her own opinion or estimation in order to make a final decision (Yaniv, 2004). This advice-seeking process allows the judge to consider alternative options, learn new information, correct inaccurate

information, or confirm an existing opinion. Advice is particularly helpful when advisors have training or expertise that improves the accuracy of their advice above and beyond the judge's knowledge (Harvey & Fischer, 1997). However, advice can improve decision accuracy even when the advisor is no more qualified than the judge (Gino, 2008; Gino & Moore, 2007; Yaniv & Kleinberger, 2000). Multiple independent estimates averaged together are typically more accurate than a single independent estimate, since this averaging process can cancel out estimation errors (Larrick & Soll, 2006; Soll & Larrick, 2009).

While advice generally leads to better decisions, judges are inconsistent when it comes to seeking and using advice (e.g. Gino, 2008; Sager & Gastil, 2006; See et al., 2012; Yaniv & Kleinberger, 2000). Despite the superiority of an 'averaging' strategy for advice, individuals typically utilize a 'choosing' strategy where they select the estimate that they believe is most accurate (either their own estimate or that of an advisor). They then use that estimate as the anchor, either ignoring the other estimate altogether, or making relatively small adjustments based on the additional information (Soll & Larrick, 2009). Heuristics and biases play an important role in judgment and decision making, and can influence how decision makers integrate advice into final commitments (Arkes & Blumer, 1985; Gino, 2008; Kahneman, 2011; Yaniv & Kleinberger, 2000; Yaniv, Choshen-Hillel, & Milyavsky, 2009).

Furthermore, task, judge, and advisor characteristics all influence the extent to which people use advice and are willing to pay for advice. (Bonaccio, 2007; Gino & Moore, 2007; Harvey & Fischer, 1997). This paper proposes three primary judge-

centered drivers for advice outcomes; judge task-specific self-confidence (Bonaccio, 2007; Yaniv, Choshen-Hillel, & Milyavsky, 2009), judge trust in advisor competency (Harvey & Fischer, 1997; Yaniv & Kleinberger, 2000), and judge trust in advisor motives (Patt et al., 2006; Sah, Loewenstein, & Cain, 2013). These primary drivers can influence the likelihood with which judges will pay for advice and use advice (Bonaccio, 2007; Gino, 2008; Harvey & Fischer, 1997; See, Rothman, Morrison, & Soll, 2012) and can themselves be influenced by judge, task, and advisor characteristics (e.g. Gino & Moore, 2007; Harvey & Fischer, 1997; Sager & Gastil, 2006).

Emotions experienced during the decision making process are proposed to act as a more distal influence on a decision maker's willingness to pay for advice, seek advice, and use advice when making a final decision (See et al., 2012). The model in this dissertation proposes that the influence of emotions on advice behavior is partially mediated by task specific self-confidence, trust in motives, and trust in competency. This model elaborates on the underlying emotional dimensions which may guide the mediation paths, and then tests this expected pattern with four different incidental emotions; regret, pride, anger, and gratitude (Dunn & Schweitzer, 2005; Gino, Brooks, & Schweitzer, 2012; Gino & Schweitzer, 2008; Martinez, Zeelenberg, & Rijsman, 2011). Positively valenced emotions directed towards self are expected to increase self-confidence, and reduce advice-seeking and advice-using behavior, while negative emotions directed towards self are expected to decrease self-confidence, increase trust, and increase advice-seeking and advice-using behavior. Negative other-focused emotions are expected to reduce advisor trust, increase self-confidence and reduce advice use and

willingness to pay for advice. On the other hand, positive other-focused emotions are expected to increase advisor trust and increase advice use and willingness to pay for advice.

Advice Use

Decision makers seek and use advice for multiple cognitive and affective reasons. For example, the advice of others can help a judge fill in missing information or consider alternative options. It can increase the decision maker's confidence in a particular course of action. Seeking the opinions of others can also encourage 'buy-in' from individuals who will be directly impacted by the decision. Furthermore, it may provide feedback about a decision that has already been made (Shani, Van de Van, & Zeelenberg, 2012). When discussing advice within the context of this paper, advice seeking behavior is more narrowly defined as 'seeking information or opinions from others in an attempt to improve decision quality,' and advice use is defined as 'using information or opinions from others to revise one's initial opinion.' Seeking advice sometimes incurs direct or indirect financial cost.

In order to assess advice use, researchers typically must ascertain a decision maker's initial estimate or opinion and measure change from this initial estimate after receiving advice. To accomplish this, advice researchers commonly use a paradigm known as a Judge-Advisor System (JAS; Snizek & Buckley, 1995). In a judge-advisor system, a judge (decision-maker) is asked to give his or her best answer to a decision problem. The judge then receives the input of one or more advisors on the same decision problem. This advice is typically a recommendation by the advisor(s) in the form of his

or her best guess at the correct answer. After receiving this ‘advice,’ the judge is then responsible for integrating this information with his or her own opinion to make a final decision.

The JAS research design offers several advantages. For example, it offers psychologists a great deal of flexibility when it comes to judgment tasks. Researchers sometimes use decision tasks which involve choosing between different options. For example, they may ask judges to select the most valuable mountain bike, highest-quality hiking backpack, or best mutual fund (Godek & Murray, 2008; Sniezek et al., 2004). One researcher even asked participants whether they wanted to switch or stay while playing the Monty Hall three-door game (Patt et al., 2006). Advisors, sometimes with specialized knowledge, will typically pass along a recommendation for a specific option. Judges are then free to either retain their original choice or change to the advisor’s recommendation (assuming the judge and advisor made different choices).

More commonly, JAS studies use judgment estimation tasks, where judges are asked to complete one or more quantitative estimations. The topics of these ‘judgment’ scenarios cover a variety of topics, including sales forecasts (Harvey, Harries & Fischer, 2000), historical dates (Gino, 2008; Slade, 2010; Yaniv & Kleinberger, 2000), estimates of body weight (Gino & Moore, 2007; Tost, Gino, & Larrick, 2012), livestock mortality rates (Harvey & Fischer, 1997), or the amount of money in a coin jar (See et al., 2012; Tost et al., 2012). After judges make an initial (numerical) estimate, they receive estimates from one or more advisors. These judgment tasks are often superior to choice tasks as judges can be influenced by advice without fully rejecting or fully accepting it.

JAS experimental studies generally have strong internal validity, where it is easy to observe and quantify variability in weighting strategies.

Egocentric bias. When provided access to advice, individuals rarely optimize their advice use. The optimal weighting strategy for integrating multiple opinions of unknown quality is an equal weighting or averaging technique (Larrick & Soll, 2006). Instead, all other things being equal, judges give disproportional weight to their own opinions as compared to outside opinions. This non-optimal weighting error is known as advice discounting. In general, people pay too much attention to their own judgment when making a decision (e.g. Larrick & Soll, 2006; Yaniv, 2004; Yaniv & Foster, 1997; Yaniv & Kleinberger, 2000). However, numerous task, judge, and advisor characteristics can influence the extent to which judges underweight or overweight their own opinion (e.g. Gino, 2008; Gino & Moore, 2007; See et al., 2012). For example, individuals have shown sensitivity to advice quality, and generally adjust their weighting strategy according to the perceived accuracy of the advisor (Yaniv & Kleinberger, 2000).

For example, decision makers vary their weighting strategies based on the difficulty of the task, even when the advisor is no more qualified than themselves (Gino & Moore, 2007). When participants face a simple judgment task, they tend to overweight their opinion relative to the opinions of others. However, when the judgment task is difficult, the participant is more likely to overweight advice from others. This overweighting may take the form of a weighted averaging technique, but individuals are more likely to take a ‘choosing’ approach rather than an ‘averaging’ approach when faced with multiple independent estimates (Soll & Larrick, 2009). This behavior is

explained largely by the egocentric nature of comparative ability judgments (Kruger, 1999). People anchor on their own ability level and fail to adequately adjust for the ability level of others (Kruger, 1999). Because people tend to be somewhat overconfident in their own abilities, this leads to a general trend toward underweighting advice.

Anchoring and adjustment. Anchoring and adjustment can also contribute to advice discounting (Tversky & Kahneman, 1986). Individuals tend to anchor on initial stimuli and insufficiently adjust from these starting points (Switzer & Sniezek, 1991). Because of this phenomenon, judges can be strongly influenced by the location of the initial starting point. In judgment estimation studies, judges typically commit to an initial choice or estimate before receiving input from others. This formal estimate prior to receiving advice can solidify a judge's commitment to their initial estimate. This initial anchor can impact the judge's final estimate, as judges are often unwilling to make a significant adjustment away from their anchor. This initial commitment will typically increase advice discounting when the advisor's estimate and judge's estimate are far apart from each other (Harvey & Fischer, 1997).

Anchoring and adjustment is likely to impact non-experimental decision tasks as well, particularly when judges commit to an estimate or otherwise anchor on an initial value, but may be particularly exacerbated by some experimental designs. This may occur through rationale construction, as individuals use interpersonal interactions to develop compelling justifications for their initial opinions, rather than as an opportunity to collect additional information to improve their decision making (Heath & Gonzalez, 1995).

Willingness to Pay for Advice

Most advice studies have given participants advice for free (e.g., Harvey & Fischer, 1997; Yaniv, 2004; Yaniv & Kleinberger, 2000). However, several studies have been conducted where participants pay to receive advice (Gino, 2008; Patt et al., 2006; Slade, 2010; Sniezak et al. 2004). These studies have generally focused on the effect of paying for advice on advice use, and have discovered a robust ‘paid-advice effect,’ whereby paid advice is treated as more valuable than free advice. While this is an important line of inquiry, this research study will expand our understanding of advice cost by focusing on the antecedents of the decision maker’s willingness to pay for advice.

By treating willingness to pay for advice as a dependent variable of interest (rather than advice cost as a predictor of advice use), this paper hopes to shed light on why people pay for advice. There are many circumstances when people are willing to pay for the opinion of others, even when there is limited evidence that the advice is worthwhile. Investment advisors often charge high fees for their services, even though stock market performance is unpredictable and investors would generally benefit from low-cost index funds (Bogle, 1999). Likewise, people purchase mutual fund recommendations from fund managers, despite the fact that fund managers have a vested interest in making recommendations favorable to their own bottom line (Freeman & Brown, 2001). Businesses hire external consultants to solve management problems, and individuals pay hefty fees for therapists to help them resolve personal struggles, although neither one appears to be very successful (Dawes, 1994; Pfeffer & Sutton, 2007). By identifying judge characteristics that predict willingness to pay for advice, this paper

hopes to contribute to society's understanding of when people are most susceptible to pay for professional advice.

Numerous judge, task, and advisor characteristics have been shown to impact willingness to pay for advice. For example, judges are more receptive to the opinions of an advisor (and more willing to pay for said opinions) when a task is complex versus a simple task, even if the advisor is no more qualified than the judge (Gino & Moore, 2007). Decision makers that use rational processing approaches are generally willing to pay more for advice than individuals that are making decisions based on affective and emotional intuitions, also known as experiential processing (Godek & Murray, 2008). Judges are less willing to pay for outside opinions when they consider themselves to be an expert in the subject area (Godek & Murray, 2008), but more willing to pay for advice when they are less confident in their own responses (Godek & Murray, 2008) and when the expected quality of the advice is high (Feng & MacGeorge, 2006).

Relationship between Advice Outcomes

Both advice outcomes (advice use and willingness to pay for advice) are expected to be positively correlated with each other. In general, researchers have found that people treat advice as more valuable and more accurate if they had to pay for it (Sniezek et al., 2004). Because the judge has paid for the advice, he or she tends to give the advisor's opinion more weight while making a final estimate than if he or she had received it for free. This over-valuation of paid advice relative to free advice is known as the paid-advice effect (Gino, 2008). The paid-advice effect can have important implications within an organization because people generally prepay for advice before they can assess its

quality or accuracy. If the act of paying for advice predisposes decision makers to use the advice independent of quality, they may err when integrating this advice into the final decision. Willingness to pay for advice is not only positively related to advice use, the act of paying can actually influence the extent to which advice is used. Since prepaying for advice increases the perceived credibility of an advisor (Patt et al., 2006), it is important to examine when people are willing to pay for advice. It is possible that paying for advice may inappropriately increase advice use and judge confidence in an advisor. Although paying for advice generally reduces the egocentric bias, decision-makers may be swapping one decision error for another.

Proximal Predictors

Self-confidence. The decision to seek and use advice is a function of judge confidence in their ability to choose the optimal solution to a decision problem, the expected quality of the advice, and the cost or effort associated with obtaining it. However, people solicit advice for multiple reasons, both cognitive and affective. One reason is to increase decision quality, as advice typically improves decision accuracy (Larrick & Soll, 2006). Another reason is to increase certainty, as people are generally averse to uncertainty when making decisions. Advice provides an opportunity for performance feedback, particularly in the absence of unambiguous feedback on the quality of one's decision. Performance feedback provides an opportunity for people to adjust their self-confidence in the face of assessments about the quality of their choices, and can lead to more accurate levels of self-confidence (Feather & Simon, 1971; Lenney, 1977; McCarty, 1996). When the cost of advice is insignificant and the decision is

important, most people will seek advice. However, some evidence suggests that confidence may play a role in people's willingness to seek or pay for advice (See et al., 2012).

When judge and advisor responses agree (or are very similar), judge self-confidence and advisor trust will increase without necessitating a comparison process between the two. This is typically a desirable outcome for decision makers, as people find uncertainty to be less pleasurable than confidence (Smith & Ellsworth, 1985). In fact, judge self-confidence increases when receiving similar advice even if this advice was chosen explicitly for its similarity (Yaniv et al., 2009). Judge-advisor agreement is associated with positive affect because it reduces or eliminates the perceived need for a decision maker to expend additional cognitive energy on the decision (Savadoria, Van Swol, & Sniezek, 2003).

When judges receive advice that is discrepant from their initial advice, they must then determine how to incorporate this new information into their previous estimate. When initial estimates and advice disagree, decision makers can discount the advice, discount their own initial opinion, or weight the advice and their own opinion equally. It is worth noting that an averaging strategy where opinions are weighted equally is the mathematically optimal tactic if judges and advisors are equally qualified (on average) to make a judgment estimation, and if the goal is to minimize error rather than make a perfect choice. It is expected that judges who are very high or very low on self-confidence will fail to take advantage of the 'averaging' principle that Larrick and Soll

(2006) have described, while judges with appropriate levels of self-confidence will be more likely to weight final estimates optimally.

Task-specific self-confidence is an important predictor willingness to pay for advice. When decision makers are low on domain-specific knowledge and experience, they are less confident in their own opinions and more willing to solicit opinions and additional information, even if it comes at a cost to themselves (Godek & Murray, 2008). Likewise, judge item-level and task-level self-confidence are both significant predictors of advice use (Slade, 2010).

When decision makers are able to access the opinions of others, task difficulty plays a role on how they use this information. The difficulty of the decision task can influence the extent to which people use advice. People are usually able to make accurate judgments of their own expertise (Arkes, Christensen, Lai, & Blumer, 1987; Trafimow & Sniezek, 1994). They can therefore use this self-assessment to determine whether they should solicit or use the opinions of others. For example, Yaniv and Kleinberger (2000) found that judges with inaccurate initial estimates are more likely to utilize an advisor's opinion.

While the tendency to weigh one's own task specific confidence is a helpful strategy, it can lead to overcorrection, encouraging people to inordinately overweight or underweight the advice of others. Research has shown that while people are usually able to make an evaluation of the accuracy of their judgments (Trafimow & Sniezek, 1994), they make mistakes when comparing their accuracy to others. For example, people generally believe that they are above average on tasks that most people are able to do

(e.g. driving a car or operating a computer mouse), yet below average on more challenging tasks, such as computer programming (Kruger, 1999). Research generally suggests that people are over-confident in their performance on simple tasks and under-confident in their decision accuracy on difficult tasks (Gino & Moore, 2007), although this finding is not universal (e.g. Lichtenstein & Fischhoff, 1977). Furthermore, research has suggested that judge confidence mediates the relationship between task difficulty and advice use (Gino, 2008). If a task is relatively easy for a decision maker, he or she is confident in his or her own answer and is thus less receptive to advice.

Judges that are confident in a particular subject area are less likely to use advice, and judges that are confident on their response to a specific question are also less likely to use advice (Slade, 2010). Likewise, judges are less willing to pay for advice when they have decision-specific knowledge (Godek & Murray, 2008). Judge confidence has had a strong influence on advice use in several studies (e.g. Gino et al., 2012; Slade, 2010). Because of the consistent effects of self-confidence in prior advice research, this paper proposes that task self-confidence acts as a primary driver on advice use and willingness to pay for advice.

Hypothesis 1: Task-specific self-confidence is negatively related to willingness to pay for advice.

Hypothesis 2: Task-specific self-confidence is negatively related to advice use.

Advisor trust. Decision makers form evaluations of advisor quality to determine how much weight they should give to the advice of one or more advisors. Bonaccio and Dalal (2010) found that advisor intentions and advisor expertise were the two most

important factors in determining the weighting policy of judges. Likewise, Siegrist, Earle, and Guscher (2003) developed a two-factor model of trust, distinguishing between social trust and confidence. According to this model, social trust is primarily driven by value similarity, while confidence is based on expected performance. Siegrist et al.'s two-factor model of trust is not the only model of trust that has been proposed by psychologists. For example, Cook and Wall (1980) distinguishes between judge expertise and judge intentions, while a risk communication model labels these dimensions as trust in motives and trust in competence (Twyman et al., 2008). Other researchers have proposed a three factor trust model consisting of the extent to which one believes in the ability, benevolence, and integrity of the other person (Mayer, Davis, and Schoorman, 1995). McAllister (1995) suggests a distinction between affect-driven trust and cognition-driven trust. Cognition-driven trust results from analysis that incorporates evidence regarding the knowledge, ability and intentions of the advisor, whereas affect driven trust stems from the emotional bonds that are built from repeated interaction with an advisor. Affect-driven trust can also be the product of the judge's more general predispositions to trust, suspect, or value such relationships (McAllister, 1995). One common shortcoming of advice research is that studies do not allow enough time for extensive reputations to be formed.

All of these models offer important perspectives. As Twyman et al (2008) points out, the McAllister model is tailored to discuss existing dyadic relationships. The Mayer et al framework can add nuance to the intentions/motives element of trust by dividing it into benevolence and integrity. However, the various two-factor models offer the

simplest framework to discuss advice use within relatively new relationships (Bonaccio & Dalal, 2010; Cook & Wall, 1980; Siegrist et al., 2003; Twyman et al., 2008).

Accordingly, this paper will use the labels ‘trust in competency’ and ‘trust in motives.’ Trust in motives is generally driven by attributions of positive personality characteristics such as honesty and integrity, perceived similarity in values, aligned incentives, and other reputational factors (e.g. Patt et al., 2006; Twyman et al., 2008). Trust in competency is driven by perceptions of past performance and/or expertise, decision-specific knowledge, and advisor confidence (e.g. Feng & MacGeorge, 2006; Sniezek et al., 2004; Yaniv & Kleinberger, 2000).

Some researchers have further distinguished between different outcomes of trust (Twyman et al., 2008). Stated trust is defined as the extent to which judges claim to trust the advice, while revealed trust is defined as the extent to which advice changes actual behavior. These are often related to each other, but can separate from each other under certain conditions (Twyman, Harvey, and Harries, 2008). For example, one could voice suspicion that government warnings to evacuate before a hurricane are unnecessary (low stated trust), yet still prepare one’s house and head inland (high revealed trust). Alternatively, one could agree that sexually transmitted diseases are a significant concern and it is wise to use protection (high stated trust), yet not alter one’s own sexual behavior (low revealed trust). For this study, stated trust will be observed via survey, while revealed trust can be observed indirectly through advice use.

Trust in Motives One important component of a decision maker’s willingness to use advice is trust in his or her assessment of the motives for giving advice. Siegrist et al

(2003) proposes that trust in motives (also known as social trust) is driven primarily by perceived value similarity. In the absence of concrete information on value similarity, similarity on other characteristics can act as a stand-in for value similarity. For example, judge-advisor demographic similarity is tied to advice use when trying to predict the future (Gino, Shang, & Croson, 2009). People are more willing to listen to similar others when making decisions about safety and risk messages (Siegrist, Guscher, & Earle, 2005), and judges are more likely to listen to an advisor that have similar musical tastes to them when making aesthetic judgments (Yaniv, Choshen-Hillel, & Milyavsky, 2011). Judges are more willing to accept advice from advisors with whom they have a pre-existing social relationship (Feng & MacGeorge, 2006).

Researchers have proposed that judges are more likely to view advice as credible if the interests of the advisor and judge are aligned (e.g. Patt et al., 2006). If advisors share a stake in the outcome that is aligned with the interests of the judge, the judge can be relatively confident that the motives of the advisor are pure. Although aligned interests do not always lead to greater trust in the advice of a stranger, it appears that the power of aligned incentives increases with repeated interactions (Patt et al., 2006). There are a number of factors that can influence the reputation of an advisor. Decision makers that prepay to receive advice are generally more likely to view the advice as credible (Gino, 2008; Patt et al., 2006; Sniezek et al., 2004), although this is not always the case (Slade, 2010).

On the other hand, decision makers often receive advice from people that may stand to profit from one choice more than another. An investment broker will typically

make more profit if his clients select an active portfolio rather than a low-maintenance mutual fund, because he will earn higher fees with an actively managed account. Mutual funds generally yield better returns for investors than actively managed accounts, so a judge may be in a position where he or she should limit the trust he places in his broker as a financial advisor. The ability to identify misaligned incentives between a judge and advisor is an important element in decision making, and can be compromised in some situations by judge, task, or advisor characteristics (Gino et al., 2012). Commission-based salesmen will typically attempt to connect with prospective clients through social connections, thus benefiting from social trust imbued by the recommendation of a friend. Advisors may obscure the structure of their financial incentive, or operate in an industry that is highly technical, so that people presume that the ‘expert’ must know more about the topic than they do (Gino & Moore, 2007).

For example, insurance salesmen may emphasize the anxiety and uncertainty associated with death in order to personally benefit from the sale of a lucrative ‘whole life’ insurance policy. Some negative emotions, such as anxiety, can make individuals more trusting of others, while other emotions, such as anger, can make an individual less trusting (Dunn & Schweitzer, 2005; Gino & Schweitzer, 2008; Gino et al., 2012). Likewise, some positive emotions such as love or gratitude can increase trust (Gino & Schweitzer, 2008).

Judges that view themselves in competition with their advisor are less likely to take advice, while judges that are encouraged to view the judge-advisor relationship as cooperative or collaborative are more willing to use advice (Tost et al., 2012). This is

particularly relevant to everyday situations, where decision makers in power may feel threatened by subordinates or consultants that voice opinions in an area where the judge has technical expertise. If advice is viewed as a threat to the decision-maker, he or she may regard the advisor recommendation with more suspicion, and be averse to accepting the advice.

Hypothesis 3: Trust in motives will be positively related to willingness to pay for advice.

Hypothesis 4: Trust in motives will be positively related to advice use.

Trust in competency. Whereas trust in motives is focused on the extent to which the advisor has the best interests of the advisee at heart, trust in competency is focused on the advisor's expected performance.

Advisor characteristics. Advisor characteristics can influence the extent to which a decision maker is willing to pay for and use advice. Cues which indicate advisor experience or confidence suggest the extent to which an advisor is qualified to provide accurate judgment on a particular subject. Confident advisors are seen as more accurate than unconfident advisors. Subsequently, judges are more likely to use advice from advisors that express confidence in their own capabilities and estimates (Van Swol & Sniezek, 2005).

When assessing advisors, experience often serves as a proxy for expertise. Decision makers typically prefer advisors that are older than themselves (Feng & MacGeorge, 2006). They also are more receptive to advice from individuals that appear to be subject-matter experts, such as someone with relevant task experience (Godek & Murray, 2008; Harvey & Fischer, 1997). Advisors with formal education degrees or

certificates are seen as more credible (Feng & MacGeorge, 2006). In prior experimental studies, estimations from advisors with relevant experience are more likely to be incorporated than advice from novices (Goldsmith & Fitch, 1997).

There is a strong positive relationship between experience and confidence, but a less consistent relationship between either of those two variables and accuracy. People generally assume that their performance at any task will follow a typical improvement curve as they advance from a novice status to expertise. However, with some decision making tasks, expertise does not significantly help, or can in fact hinder, optimal decision making. This preference for subject matter experts is consistent even when expert advisors do not show improved accuracy compared to non-experts (e.g. Harvey & Fischer, 1997; Slade, 2010). Experienced individuals may employ heuristics based on prior outcomes that reduce cognitive effort, but do not necessarily improve decision accuracy. (e.g. Hanson & Howard, 2010). For example, professional interviewers are subject to a selection bias in that they only are able to see how interviewees that are hired perform, and don't get to see the outcomes for anyone that is not recommended for hire (London & Hakel, 1974). Such a situation can result in an increase in confidence without an increase in accuracy.

Judges prefer advisors that are similar to themselves if they are making a prediction about one's own future behavior, but prefer advisors that are dissimilar to themselves if they are trying to predict the behavior of others (Gino et al., 2009). In other words, judge-advisor similarity interacts with the judgment target, such that advice from a dissimilar advisor is weighed more heavily when judging the actions of others, but less

heavily when judging one's own actions. Advisor expertise is an important predictor of judges' evaluation of advisors, especially when the task includes incomplete information.

Advisor reputation. In the context of advice research, reputation is typically defined as what a decision maker learns about an advisor through experience (Yaniv & Kleinberger, 2000). This can be either personal experience (through repeated interaction) or 'shared' experience based on the recommendations of trusted others. Advisor reputation can be a blend of motive-based and competence-based evaluations. Judges tend to make relatively quick assumptions about the quality of advice they are receiving. Furthermore, judges are sensitive to changes in advice quality, revising weighting policies for initially good or poor advice when the quality changes, even over relatively few trials. However, these adjustments are typically less than optimal, as judges continue to overweight their own opinions when given access to very accurate advice (Yaniv & Kleinberger, 2000).

Harvey et al (2000) found that people are better at assessing the quality of an advisor's estimate than actually utilizing it. Judges were asked to forecast monthly sales, and then given forecasts from four other advisors. After assessing the accuracy of each advisor's forecast, the judge then had to incorporate the advice into a final estimate. Individuals were better at estimating the quality of the advisor's advice than they were at compiling all estimates into a final sales forecast. One possible explanation for this is that integrating the advice puts a heavier load on the judge's working memory. Even though participants were able to accurately assess the quality of the advice, they may have experienced some difficulty holding all forecasts in working memory while applying a

weighting policy, and therefore used non-optimal weighting strategies. This effect decreases when the advisors are distinguished more saliently, perhaps easing the load on the judge's working memory (Harvey et al., 2000).

Slovic (1993) proposes that positive and negative events have an asymmetrical impact on reputation. Trust in an advisor is built up slowly, across multiple interactions. However, it can be destroyed relatively easily, by as little as a single mistake. Negative events decrease trust far more quickly than positive events increase it. Accordingly, a single error may have a substantial impact on how much weight a judge gives to the advisor's recommendation, while a single accurate estimate would only slightly increase the perceived value of the advice. Therefore, a judge that receives poor advice may discount the advisor more than he or she credits an advisor that gives good advice.

Negativity bias is one possible explanation for why this occurs. Negative information is perceived as more indicative of an individual's true character, probably because positive information is more common, more in keeping with social norms, and thus is not as distinguishing as negative information (Slovic, 1993). Negative information, on the other hand, conveys more information because it is an instance where the individual deviates from social norms. Such a deviation is more memorable, and is thus easily recalled when people make a summary judgment of the individual's personality or capability. Accordingly, any negative information about others may have a disproportionately large effect on advice use.

Furthermore, a lack of information about others may also negatively influence a decision maker's perception of others. People do not generally 'assume the best' when it

comes to missing information. For example, judges tend to interpret missing information about an advisor's intentions or expertise negatively (Bonaccio, 2007). When applied to judge-advisor scenarios, differential information suggests that judges underweight advice because they do not have access to the private knowledge of the advisor (Yaniv & Kleinberger, 2000). This bias may skew a judge's perception of the advisor by predisposing the judge to interpret unknown information negatively.

Trust in competency: summary. When judges expect that the advisor will be more accurate than themselves, they are more likely to seek and use advice (Gino & Moore, 2007; Harvey & Fischer, 1997; Yaniv, 2000). Likewise, when they believe that the advisor is less accurate than themselves, or similarly accurate to themselves, they are much less likely to use advice (Gino & Moore 2007).

Hypothesis 5: Trust in advisor competency will be positively related to willingness to pay for advice.

Hypothesis 6: Trust in advisor competency will be positively related to advice use.

Distal Predictors

Internal States

Affect and decision making. Many decision making researchers have explored the influence of different emotional states on the judgment and decision making process (e.g. Bell, 1982; Gino & Schweitzer, 2008; Slovic, Lichtensten, & Fischhoff, 1988). The 'influence on' metaphor has been critiqued by some researchers (e.g. Pfister & Bohm, 2008) as inferring that decision making would be a completely rational process except for

the interference of emotions. However, the ‘influence on’ metaphor is both common and helpful, and will therefore be used throughout this paper.

A judge’s internal state can have a profound impact on the decision process and quality of the final decision (e.g. Morrison, Rothman, & Soll, 2011; Tost et al., 2012). Research has shown that general mood (global positive and negative affect) can impact judgment estimation tasks, with individuals experiencing positive moods generally making more optimistic estimates, and individuals experiencing negative affect making more pessimistic estimates (Johnson & Tversky, 1983). Furthermore, specific emotions can also impact estimation tasks; people experimentally induced to experience anger made optimistic risk estimates and riskier choices, while fearful people made less optimistic risk estimates and safer choices (Lerner & Keltner, 2001). More specifically, emotions can play an important role in determining whether decision makers are receptive to advice from others (Gino & Schweitzer, 2008).

Social scientists disagree on the precise definition and function of emotion (Izard, 2010). In fact, a 1981 study compiled a categorized list of 92 different definitions of “emotion(s)” (Kleinginna & Kleinginna, 1981). One useful definition of emotions is ‘experienced feelings about a stimulus’ (Peters, Vastfjall, Garling, & Slovic, 2006). These experienced feelings or states are typically temporary in nature, although they may repeatedly surface with exposure to similar stimuli. Some individuals may be consistently likely to experience specific emotions (e.g. trait-based characteristics) but for the duration of this paper, the focus will be on the experienced emotional state rather than trait-based predispositions towards feeling certain emotions. Unifying theories explaining the timing

and taxonomy of affect-based influence, as well as the impact of specific internal states, will be explored over the next few pages.

Timing of experienced emotions. Emotions may be experienced in the information search phase, the choice phase, or while experiencing outcomes of the decision. Internal states that are being experienced during the search phase are likely to affect information search patterns, such as persistence in gathering additional information, choosing whether to seek advice, and determining when to terminate the search for new information (Kustubayeva, Matthews, & Panganiban, 2012; Shani, Van de Van, & Zeelenberg, 2012;). During the choice phase, internal states may influence weighting strategies or predispose the decision maker towards simplifying heuristics such as sunk costs, egocentrism, or emotion-focused decision making (Mikels et al., 2011).

Researchers typically distinguish between integral emotions and incidental emotions (e.g. Loewenstein & Lerner, 2003). Integral emotions are evoked by the context of the decision process itself (Loewenstein & Lerner, 2003). Some decisions are loaded with emotion, such as deciding whether to purchase a new home, or deciding whether to continue painful treatments to prolong the life of a terminally ill patient. Integral emotions may also be evoked by how a decision maker feels about his or her advisor. For example, people express a preference for advice from close friends or family members, and are more willing to receive advice from an advisor that evokes strong positive affect (Feng & MacGeorge, 2006; McAllister, 1995). Both incidental and integral feelings of power have been linked to advice-taking behavior (See et al., 2012). It is expected that integral emotions are more likely to influence advice use, and more likely to persist

across time, than incidental emotions, although there is limited research directly testing the effect of integral emotions on advice use (Gino & Schweitzer, 2008).

Incidental emotions are the coincidental product of unrelated events. The decision maker may be experiencing emotions during the decision-making that are ‘spilling over’ from other domains or chance experiences, such as a heated disagreement at home or receiving an unexpected gift from a friend. Incidental emotions have been shown to influence advice-taking behavior (Gino & Schweitzer, 2008). In the aforementioned study, the effects of incidental anger and incidental gratitude on advice-taking behavior were mediated by trust and receptiveness to advice. Since participants that experienced incidental gratitude weighted advice more heavily than neutral participants, egocentric bias was reduced and estimates were therefore significantly more accurate. Participants that experience incidental anger used advice less and were significantly less accurate than the control group (Gino & Schweitzer, 2008).

Emotions can be present-focused emotions and be anticipated emotions, and both can have consequences on decision making. Present-focused emotions are either incidental or integral emotions that are occurring during the decision making process, and may influence decision making behavior, including information search patterns and decision making strategies. Anticipated emotions are predictions about a future emotional state, such as how one will feel if various decision outcomes occur (Zeelenberg et al., 2000). Predictions about anticipated emotions can influence decision-making by altering the expected consequences of a particular action (e.g. Bell, 1982; Zeelenberg et al., 2000). Although people often overestimate the intensity of future emotional states

(Kitchens et al., 2008), these anticipated emotions can nonetheless impact choices. For example, Bell (1982) demonstrates that decision makers can anticipate that they may regret a present choice in the future, even if they would not regret it in the moment. The anticipation of future regret can lead decision makers to make a suboptimal choice without necessarily feeling the emotion of regret at the time of decision. It is important to know that emotional decision making studies often use manipulations that span the timing continuum, asking participants to remember a time when they experienced a given emotion, inducing the emotion via an emotional video or audio clip, or asking participants to speculate on how they would feel if a given outcome occurs (e.g. Dunn & Schweitzer, 2005; Gino & Schweitzer, 2008; Gino et al, 2012).

Affect and decision-making theories

Peters' four functional roles of affect. Peters et al (2006) proposes that affect serves four functional roles when making decisions. First, feelings can act as a shortcut or heuristic, giving decision makers a quick evaluation of how they feel about their options (Slovic, Finucane, Peters, & MacGregor, 2002). This is similar to the affect-as-information theory proposed by Schwarz and Clore (1983), whereby positive emotions towards one possible home versus another may provide useful insight into the best choice. Decision affect theory (Mellers, 2000) pushes this one step further, suggesting that rational decision makers weigh the valence of emotions tied to the possible outcomes of each choice, and choose the option that has the best mix of anticipated emotions.

Second, affect can serve as a spotlight, highlighting specific elements of choices that are particularly salient to the decision maker. Theoretically, this then allows the

judge to process the most important aspects of possible choices at a greater level of detail (Peters et al., 2006). For example, decision makers may experience fear when considering a major financial investment, therefore highlighting an important aspect of the decision task- the relative risk of losing one's money.

Third, affect can serve as a motivator, pressuring judges to either expend effort or avoid making effort in making a decision (Zeelenberg & Pieters, 2006). For example, anxiety experienced during an important decision may encourage decision makers to make a decision quickly, exit negotiations early, pay a professional to make the decision for them, or avoid making any decision at all (Brooks & Schweitzer, 2011; Marks & Nesse, 1994). On the other hand, feelings of pride or narcissism can encourage people to persist during difficult mental tasks, especially when task success is perceived as the only opportunity for self-enhancement (Wallace, Ready, & Weitenhagen, 2009).

Fourth, affect serves as a common currency, allowing people to compare across different decision making experiences. A decision maker can draw a common thread between anxieties experienced as a child before taking a test, as an athlete before a big race, and as a professional about to give a presentation. The similarity of experienced emotions allows the individual to derive meaning from the experience and apply generalizable strategies from different areas of life. Moreover, affect can serve as a common currency when sharing and discussing experiences with others, providing near-universal touchstones for widely different events.

Pfister and Bohm's framework for emotional functions in decision making.

Pfister and Bohm (2008) also propose a four-part framework for the role of emotional

functions in decision making, suggesting that emotions can facilitate decision making by providing information, affecting speed, highlighting relevance, and/or altering commitment. They also cited several emotions as being exemplars for the specific roles.

First, Pfister and Bohm (2008) suggest that some emotions provide valuable information about preferences via pleasure and pain. This is similar to affect-as-information theory, in that emotions provide cues about how one feels about various options (Peters, 2006; Schwarz & Clore, 1983). Emotions that serve in this way are typically reducible emotions that can be easily characterized on a positive affect-negative affect scale, such as joy and sadness. Such emotions can be particularly helpful when evaluating trade-offs between a relatively small number of options. The affect-heuristic provides a quick shortcut for making a decision by relying on one's current or anticipated hedonic reactions towards the decision options (Slovic et al., 2002).

Some emotions facilitate rapid choices under time pressure (Pfister & Bohm, 2008). Often, judges are given a limited amount of time in order to make a decision, and complete knowledge of the various options is not possible. Some emotions increase the unpleasantness of uncertainty, such as fear and anxiety, and therefore encourage decision makers to increase certainty by making a decision rapidly. Other emotions, such as disgust and lust, facilitate quick decisions by magnifying the attractiveness or unattractiveness of a particular option. Patients with ventromedial prefrontal cortex damage have difficulty experiencing these emotions and are therefore stuck in deliberation indefinitely, struggling to cross the final threshold from evaluating and incorporating new information into translating this deliberation into a final decision and

subsequent action (Bechara & Damasio, 2005). Emotions which encourage rapid decisions serve an important role, but can also lead actors to make suboptimal decisions by failing to consider all aspects of an important decision, diminishing or increasing self-confidence (Gino, 2008), reducing sensitivity to the quality of information or advice (Gino et al., 2011), or cuing on highly visible but less important variables.

Third, affect can focus attention on specific elements of a decision problem (Peters, 2006; Pfister & Bohm, 2008). Emotions such as regret and disappointment can highlight mistakes made previously and allow decision makers to more accurately calibrate on specific aspects of a problem, such as determining their expertise on the topic.

Fourth, emotions can bolster commitment and encourage behavior by bolstering morally and socially normative ideals. For example, emotions such as guilt and embarrassment may discourage individuals from behaving in a morally or socially unacceptable manner. Other emotions, such as love and anger, may stimulate socially acceptable responses towards others.

Smith and Ellsworth (1985): patterns of cognitive appraisal in emotion. Smith and Ellsworth made significant progress in categorizing emotional experience in terms of their underlying dimensions. Historically, most researchers have focused on a two-dimensional model of emotional experience, contrasting high and low levels of arousal with positive and negative affect. However, a two-dimensional model of emotion does not allow one to effectively compare different emotional experiences. For example, joy

and sorrow, as well as fear and anger, could both be considered opposites. However, these emotion pairs differ from each other in unique ways.

Smith and Ellsworth (1985) asked participants to recall past emotional experiences, and rate them along several dimension sets. A subsequent factor analysis suggested that there are at least six underlying dimensions to emotional experience: Pleasantness, attentional activity, anticipated effort, certainty, self-other responsibility/control, and situational control.

Pleasantness is very similar to positive/negative affect, whereby emotions vary across a spectrum based on how pleasant or unpleasant it is to experience them. Attentional activity is the extent of focus and attention that the emotion commands. Anticipated effort describes how much the emotion carries an expectation of physical or mental effort to resolve the situation. Boredom and challenge would be on opposite ends of the spectrum for both anticipated effort and attentional activity. Certainty deals with the amount of understanding and confidence contained within the emotion. For example, surprise and anxiety would rank low on certainty, while pride and boredom would rank relatively high on certainty. Self/Other responsibility is focused on the attribution of the emotion. Regret and pride would rank high on self-responsibility, while anger and gratitude would fall on the side of other-responsibility. Finally, situational control is the degree to which the emotion is controllable by the actions of humans (self or other) versus uncontrollable or determined by fate/luck.

Several dimensions of the Smith and Ellsworth model have been explored in terms of their impact on advice use. Appraisals of certainty and control have been shown

to moderate the relationship between specific emotions and risk perception (Lerner & Keltner, 2001). Gino et al (2011) suggested that anxiety impacts advice use because of its relatively high certainty and low self-control.

Emotions and Appraisal Framework

For the current study, I have selected the four emotions of regret, pride, anger, and gratitude. Regret and pride are on the self-responsibility side of the self-other continuum, while anger and gratitude are on the other side. Likewise, pride and gratitude are both pleasant emotions, while regret and anger are unpleasant emotions. Anger and regret likely rate somewhat higher on anticipated effort than gratitude or pride, as negative emotions generally involve more anticipated effort than positive emotions (Smith & Ellsworth, 1985). All four emotions are expected to be relatively similar in terms of certainty, attentional activity, and human/situational control.

I propose that the dimensions of pleasantness and perceived self-other responsibility/control will influence the impact of advice behavior in a predictable manner. Specifically, there is an interaction between self-other control and the valence of the emotion, such that decision makers will be more receptive to advice when their dominant affective state is pleasant and attributed to others (e.g. gratitude), or negative and attributed to self (e.g. regret). Likewise, individuals will be less receptive to advice if their dominant affective state is unpleasant and attributed to others (e.g. anger), or pleasant and attributed to self (e.g. pride).

Mediators of Affect-Advice Relationship

Since the relationship between affect and advice behavior is hypothesized to be an indirect rather than direct relationship, I propose that the effects of internal states on advice behavior are partially mediated by task-specific self-confidence and by trust in advisor motives and competency. There is evidence that self-confidence can mediate the relationship between situational characteristics and advice behavior, including advice seeking, willingness to pay for advice, and advice use. For example, task specific self-confidence mediates the relationship between task difficulty and advice use (Gino, 2008). Anxiety increases uncertainty, encouraging people to seek social contact from others and therefore making it more likely that people will seek advice (Taylor, 2006). Judges that experience anxiety before making a decision are more likely to seek and use advice, and this relationship is mediated by self-confidence (Gino et al., 2012). The negative correlation between individual feelings of power and advice use is driven primarily by inflated confidence is his or her initial estimate prior to receiving advice (See et al., 2012). Likewise, judges that are induced to incidental other-directed anger are less likely to use advice, and report higher levels of task-specific self-confidence (Gino et al., 2012). Based on existing research, my model generalizes the role of self-confidence as an important mediator between affective states and advice behavior.

Task specific self-confidence is not the only mediator between internal states and advice behavior. Affective states can also influence attitudes towards the advisor, including the extent to which one trusts an advisor's motives and competency. Emotions characterized by other-person control have been found to influence trust significantly

more than emotions characterized by personal control (Dunn & Schweitzer, 2005). For example, Gino and Schweitzer (2008) found that judges that experience incidental gratitude are both more trusting and more likely to seek and use advice, while judges that experienced incidental anger were both less trusting and less responsive to advice. I propose the following general mediation model for the influence of affective states on advice seeking and advice taking behavior, followed by specific hypotheses for regret, pride, anger, and gratitude.

Regret. Regret is an unpleasant (negative) emotion that is generally experienced when an outcome of a choice is less pleasing than the likely outcome if another choice had been made. Decision researchers have studied the effect of regret on such divergent topics as financial decision making (Zeelenberg & Beattie, 1997), negotiations (Larrick & Boles, 1995; Zeelenberg & Beattie, 1997), lotteries (Josephs, Larrick, Steele, & Nisbitt, 1992), and risky personal choices such as unsafe sex (Richard, van der Pligt, & de Vries, 1996) or aggressive driving (Parker Stradling, & Manstead, 1996). Regret can be experienced as an incidental emotion when reflecting on an unrelated activity that has occurred in the past, and can influence current behavior. The anticipation of future regret can also influence decision making strategies, as an integral future-centered emotion. Advertising campaigns sometimes introduce counterfactual thinking in order to alter decision-making behavior, emphasizing the regret one would feel if one missed out on an opportunity (e.g. Hetts, Boninger, Armor, Gleicher, & Nathanson, 2000).

Several studies have examined the role of anticipated regret on decision making. Anticipated regret can lead to both risk seeking and risk averting decisions, depending on

the situational context (Zeelenberg, 1999). Anticipated regret has also been linked to sunk costs behavior, such that people are more likely to escalate commitment to a failing project if they anticipate high future regret for withdrawal (Wong & Kwong, 2007). Anticipating the salience of a future unpleasant emotion may increase the desire to minimize regret with the outcome of one's current decision. Decision makers that rate higher on anticipated regret are also more likely to employ rational decision making techniques (Jurasova & Špajdel, 2011). Anticipated regret is a critical marketing strategy when outcomes are uncertain, such as when selling insurance, or when there is uncertainty about the future cost or value of consumer goods (e.g. Hetts et al, 2000; McConnell et al, 2000). Regret is closely linked to the emotion of disappointment, although regret and disappointment are distinguished on the dimension of self-other agency. People experience greater regret when they are responsible for the suboptimal outcome, and experience greater disappointment when someone or something else is responsible for the suboptimal outcome (Zeelenberg, Van Dijk, and Manstead, 1998). Regret is also a self-conscious emotion, and therefore shares many characteristics with guilt, shame, and embarrassment (Else-Quest, Allison, Higgins, & Morton, 2012). Regret and disappointment have been shown to yield different outcomes in some experimental settings. For example, regret may increase prosocial behavior in social bargaining games, while disappointment decreases prosocial behavior (Martinez, Zeelenberg, & Rijsman, 2011). Likewise, it is important to note that anticipated regret does not necessarily follow the same pattern as experienced regret (e.g. Zeelenberg & Beattie, 1997). If one has recently experienced regret, one is likely to take action to avoid feeling still more regret.

Anticipated regret typically occurs only when a decision maker believes that they are likely to receive feedback on the options that were not selected, whereas experienced regret occurs when one has received actual feedback. However, both experience and anticipated regret can influence decision-making on judgment tasks (Zeelenberg & Beattie, 1997).

It is expected that anticipated regret will increase advice use and willingness to pay for advice. Individuals that reflect on the possibility of future regret may make decisions that protect their self-esteem (Josephs et al, 1992), and are expected to be less vulnerable to egocentric bias. Likewise, individuals that are asked to anticipate their future emotional state under a regret-inducing outcome, such as failing to make the correct decision, are likely to exhibit a similar pattern of lowered self-confidence and increased receptiveness to advice. Moreover, it is possible that experiencing feelings of regret may increase the desire for social interactions and increase trust in the motives and competency of others.

Hypothesis 7a: Judges in the regret condition will express more willingness to pay for advice.

Hypothesis 7b: Judges in the regret condition will be more likely to use advice.

Hypothesis 8a: Regret will be negatively related to self-confidence.

Hypothesis 8b: Regret will be positively related to trust in motives.

Hypothesis 8c: Regret will be positively related to trust in competency.

Hypothesis 9a: The effect of regret on advice use will be partially mediated by self-confidence.

Hypothesis 9b: The effect of regret on advice use will be partially mediated by trust in motives.

Hypothesis 9c: The effect of regret on advice use will be partially mediated by trust in competency.

Hypothesis 10a: The effect of regret on willingness to pay for advice will be partially mediated by self-confidence.

Hypothesis 10b: The effect of regret on willingness to pay for advice will be partially mediated by trust in motives.

Hypothesis 10c: The effect of regret on willingness to pay for advice will be partially mediated by trust in competency.

Pride. Pride is a pleasant (positive) emotion characterized by high levels of certainty and self-control. Like regret, pride is also a self-conscious emotion, but is on the opposite end of the pleasantness continuum. Pride is characterized as being a two-factor emotion, with authentic pride and hubristic pride or arrogance forming two distinct emotions (Tracy & Robins, 2007). Both authentic and hubristic pride are generally associated with high levels of self-confidence, and it is therefore expected that proud individuals will be less likely to use advice. Although pride and advice have not been studied directly, numerous studies have examined the effect of feelings of power on advice and decision making (e.g. Fast, Sivanathan, Mayer, & Galinsky, 2012; See et al., 2012; Tost et al., 2012). Powerful individuals are less likely to seek advice, less likely to use advice, and less likely to adjust their advice use based on the skills and qualifications of the advisor (See et al., 2012; Tost et al., 2012). Moreover, the effect of power on

advice use was mediated by self-confidence and feelings of competitiveness (See et al., 2012). It is expected that pride will exhibit similar patterns of advice use and advice seeking, and that this will be mediated primarily through high self-confidence. Pride is not expected to relate to trust in motives or trust in competency, as it is a self-focused positive emotion.

Hypothesis 11a: Judges in the pride condition will express less willingness to pay for advice.

Hypothesis 11b: Judges in the pride condition will be less likely to use advice.

Hypothesis 12: Pride will be positively related to self-confidence.

Hypothesis 13a: The effect of pride on advice use will be partially mediated by self-confidence.

Hypothesis 13b: The effect of pride on willingness to pay for advice will be partially mediated by self-confidence.

Anger. Anger is an unpleasant emotion that is typically attributed to the actions of others. Therefore, even though it shares its negative valence with regret, we expect the opposite pattern to emerge in terms of advice use and willingness to pay for advice. Anger is characterized as an ‘approach’ response to an external fight or flight threat (Nelson, Adams, & Stevenson, 2013). Individuals that experience anger are more likely to engage in social isolation (Paez et al, 2013) and less likely to seek social support (Arslan, 2010), and therefore may be less receptive to the opinions of others. Previous research has shown that judges that experience anger prior to receiving advice are less likely to use the advice (Gino & Schweitzer, 2008). Moreover, angry judges typically

express higher levels of self-confidence than neutral judges (Gino et al., 2012), which likely mediates advice use.

Hypothesis 14a: Judges in the anger condition will express less willingness to pay for advice.

Hypothesis 14b: Judges in the anger condition will be less likely to use advice.

Hypothesis 15a: Anger will be positively related to task-specific self-confidence.

Hypothesis 15b: Anger will be negatively related to trust in motives.

Hypothesis 15c: Anger will be negatively related to trust in competency.

Hypothesis 16a: The effect of anger on advice use will be partially mediated by self-confidence.

Hypothesis 16b: The effect of anger on advice use will be partially mediated by trust in motives.

Hypothesis 16c: The effect of anger on advice use will be partially mediated by trust in competency.

Hypothesis 17a: The effect of anger on willingness to pay for advice will be partially mediated by self-confidence.

Hypothesis 17b: The effect of anger on willingness to pay for advice will be partially mediated by trust in motives.

Hypothesis 17c: The effect of anger on willingness to pay for advice will be partially mediated by trust in competency.

Gratitude. Gratitude is a pleasant emotion that is generally perceived as being caused by others. Unlike pride, gratitude is unlikely to inflate self-confidence. Gratitude

is positively associated with positive affect and social wellbeing, and is negatively related to envy (McCullough, Emmons, & Tsang, 2002). Feelings of competitiveness towards the advisor can reduce advice use (Tost et al, 2012), but individuals who experience gratitude are less likely to experience envy (McCullough et al, 2002). Other studies have shown that participants that experience gratitude are more likely to use advice (Gino & Schweitzer, 2008). Other studies have found a relationship between gratitude and trust (Dunn & Schweitzer, 2005), so it is predicted that gratitude influences advice use by increasing both trust in advisor motives and trust in advisor competency.

Hypothesis 18a: Judges in the gratitude condition will express more willingness to pay for advice.

Hypothesis 18b: Judges in the gratitude condition will be more likely to use advice.

Hypothesis 19a: Gratitude will be positively related to trust in motives.

Hypothesis 19b: Gratitude will be positively related to trust in competency.

Hypothesis 20a: The effect of gratitude on advice use will be partially mediated by trust in motives.

Hypothesis 20b: The effect of gratitude on advice use will be partially mediated by trust in competency.

Hypothesis 21a: The effect of gratitude on willingness to pay for advice will be partially mediated by trust in motives.

Hypothesis 21b: The effect of gratitude on willingness to pay for advice will be partially mediated by trust in competency.

Summary

This dissertation makes substantial contributions to our understanding of the influence of affect on advice outcomes. Along with proposing an overarching mediation model that synthesizes the available literature, it incorporates many smaller hypotheses that will fill in gaps in the literature or confirm recent advances in advice research and applied judgment and decision making.

While prior research has studied how emotions influence advice use and perceived advice quality, none have looked specifically at which emotions make an individual more willing to pay another person for advice. Some of the emotions included in this dissertation have been used in prior advice studies (e.g. Gino & Schweitzer 2008; 2012), but several have not been studied specifically in the context of advice. Specifically, pride and anticipated regret are emotions that have not been included in other studies, to the best of my knowledge.

This mediated model also offers a more complete picture of the relationship between affect and advice behaviors (See Figure 1). Recent research has proposed and supported self-confidence as a mediator between anxiety and advice use (Gino & Schweitzer, 2012), but this has not yet been extended to other emotions. While trust has been discussed as an important antecedent of advice use, the two-factor trust model (trust in motives and trust in competency) advanced in this dissertation has not previously been used in empirical advice research. Although a two factor trust model is not new in the domain of risk communication, it is relatively novel in the domain of applied judgment

and decision making. If trust-as-mediator hypotheses in this dissertation are supported by the study, it will be a significant advancement in the field of advice research.

CHAPTER TWO

METHODS

Participants

Study participants were recruited via Amazon Mechanical Turk (AMT), a crowdsourcing community that has recently become a popular and inexpensive tool for market research, feedback, and social studies research. Other research articles have suggested that samples from AMT are at least as representative of the general population as college undergraduates (Buhrmester, Kwang & Gosling, 2011; Paolacci, Chandler, & Ipeirotis, 2010; Sprouse, 2011). Online data collection facilitates the use of a non-student sample and gives access to many more participants than in a lab-based study. Moreover, financial incentives on AMT are typically much smaller than those used in studies which require lab participants to attend a physical location. Finally, non-US participants can be screened out through AMT's interface, and allows one to further screen based on certain characteristics by using a two-stage design, surveying participants and then extending invitations to participate in an additional study to a subset of those participants.

One study that replicated results from several 'classic' psychological studies found that online participants may pay less attention to instructions and manipulations (Crump, McDonell, & Gureckis, 2013). However, effective study design was found to effectively minimize this challenge. In this study, it was mitigated by using thorough manipulation checks, and excluding participants that did not answer all manipulation check questions correctly. This study also offered a financial incentive for accuracy, which tends to increase data quality (e.g. Shaw, Beebe, Jensen, & Adlis, 2001).

An advertisement was placed on Amazon Mechanical Turk, restricted to AMT workers based in the United States that were at least 18 years old, had completed at least 50 HITs (worker tasks), and received at least a 98% approval rating on their prior work. Such screening has been shown to improve worker quality and reduce rejection rates (Paolacci, Chandler, & Ipeirotis, 2010). Participants received a small financial incentive to fill out a basic demographic survey (see Appendix A). Participants then received a link inviting them to participate in an additional pair of research studies.

Power Analysis

A power analysis for a between subjects ANOVA with five conditions was conducted to determine the minimum sample size required to obtain adequate statistical power. Prior advice research has typically found a medium-to-large effect size under similar experimental conditions to this study, so a medium effect size ($r = .25$) was presumed as a conservative estimate of power (Cohen, 1988). A balanced sample of 225 participants, with 45 participants in each condition, will yield 80% power for the most sample-demanding hypotheses.

Design and Procedure

Participants received a \$1.00 participation incentive, with the chance to earn up to an additional \$3.00 based on their performance during the judgment task. Participants earned an average of \$0.93 in performance bonuses for total average compensation of \$1.93. Participation incentives on Amazon Mechanical Turk are typically lower than for

lab studies, as online participation is less burdensome than traveling to a physical research laboratory.

Part 1: “Judgment Estimation Study.” This study used the Judge Advisor System (JAS) paradigm for its experimental task. Participants completed a judgment estimation task where they were shown photographs of a coin jar that is filled to different depths and asked to estimate the number of coins in the jar. Tasks like this have the advantage of offering a decision problem that can be estimated with some degree of accuracy, but where the exact answer cannot be known with certainty. Moreover, the task is relatively novel, so participants will not vary substantially on their experience or expertise with the task. Finally, judges can make incremental adjustments to their initial estimates, which is not possible with a ‘choice’ task. Many advice researchers have used similar tasks, such as fictitious sales forecasts (Harvey et al., 2000), estimates of body weight (Gino & Moore, 2007; Tost et al., 2012), livestock mortality rates (Harvey & Fischer, 1997), and the amount of money in a coin jar (See et al., 2012; Tost et al., 2012).

After being briefed on the experimental task, but before making their initial estimates, participants completed a two-item manipulation check to ensure that they understood the instructions and the performance-based rewards (see Appendix A). Participants that failed to correctly answer one or both manipulation check items correctly were excluded from analysis.

During the judgment task, each participant viewed three pictures and made initial estimates for each jar sequentially. Participants were told that if they are within 10 coins of the correct number on the judgment estimation task, they will receive a \$0.50 bonus at

the end of the study. Financial incentives have been shown to reduce egocentric bias during judge-advisor system (JAS) tasks and are commonly used in judge-advisor studies (e.g. Gino et al., 2012; Gino & Schweitzer, 2008; Tost et al., 2012; Yaniv, 2000; Yaniv et al., 2009). Participants were not given any feedback on the accuracy of their answers during the study, and payment was done in a single batch after data collection was completed.

Part 2: “Vivid Recall Study.” In the next part of the study, participants were randomly assigned to one of five emotion-induction conditions: pride, regret, anger, gratitude, or neutral (control). Emotional writing tasks are frequently used to induce incidental emotions in psychological experiments (e.g. Gino, Brooks, & Schweitzer, 2012; Ketelaar & Au, 2003; Lerner & Keltner, 2001; Winterich & Haws, 2011). The following scripts were adapted from Gino et al. (2012). An analysis of the content within the emotional writing task was conducted to determine whether any participants wrote about a situation where they gave or received advice. Three participants met this benchmark and analyses were run twice, both with and without these participants. The direction and significance of all hypotheses were unchanged by their inclusion or exclusion.

Emotion Induction: Pride/Anger/Gratitude/Regret Conditions. “Please take a few minutes to answer the following question as truthfully as possible. Please describe, as best you can, a situation you experienced in the past that your own (someone else’s) actions made you feel very proud (mad/grateful/regretful). You might begin by typing a description of your feelings toward a situation that caused you to feel high levels of

fulfillment (anger/appreciation/remorse). Then write about the details of such situation/moment. Please write in complete sentences. And, if you can, please write your description so that someone reading this might be able to understand how proud (grateful/angry/regretful) your own (someone else's) actions made you feel."

Emotion Induction: Neutral Condition. "Please take a few minutes to answer the following question as truthfully as possible. Please describe, as best you can, how you typically spend your evenings. You might begin by writing down a detailed description of your activities, and then figure out how much time you devote to each activity. Please write in complete sentences. And, if you can, please write your description so that someone reading this might be able to understand how you typically spend your evenings."

Part 3: "Judgment Estimation Study." Participants were not given any information suggesting that the "judgment estimation study" and the "vivid recall study" are related to each other. Participants were told that they would have the opportunity to make a second (final) estimate of the number of coins in the jar. Once again, they were told that they will earn an additional \$0.50 bonus each time they are within 10 coins of the correct answer.

Participants were introduced to the 'advisor' in the study with the following vignette. "Recall the coin estimation task from earlier. In an earlier version of this task there was a person who bragged that they did these kinds of tasks all the time, and it was their opinion that they were pretty good at guessing coins. In fact, this person also stated that they thought their judgments could help other people make better estimates on this

task. We thought it would be interesting to try to test this claim, but before we do, we have several questions to ask you about this “advisor.”

Participants then responded to survey items assessing task specific self-confidence, trust in advisor motives, trust in advisor competency, and willingness to pay for advice prior to receiving advice but after the mood manipulation.

Participants were then shown the photos from the initial estimate study one at a time and asked to make final estimates. All participants were shown the estimate of their ‘advisor’ as well as their own initial estimates. All judges were given relatively good advice, an estimate that was within 5% of the actual number of coins in the jar. Participants then completed their final estimates and responded to an advice manipulation check, a demand characteristics manipulation check, and an emotion manipulation check. Participants that indicated they thought they knew the design and/or hypotheses may be excluded from analyses if their results differ from the naïve population. Participants were then thanked and debriefed. For participants in the negative affect conditions, this debrief included an explanation that any negative moods they are currently experiencing are temporary in nature and will fade relatively quickly. After data collection was complete, the participants completed an affect neutralizing session. All participants were compensated via Amazon Mechanical Turk for their participation and performance within 36 hours of completing the study.

Measures

Advice manipulation check: Participants completed a two item manipulation check to ensure that they understood the instructions and the origin of the advice. Participants that did not answer these questions correctly did not complete the study.

Emotion manipulation check: Participants were asked to report the extent to which they experienced 14 different emotions during the vivid recall study. These items are a composite of randomly interspersed anger ($\alpha = 0.98$), regret ($\alpha = 0.94$), gratitude ($\alpha = 0.97$), authentic pride ($\alpha = 0.95$), and neutral items ($\alpha = 0.84$). The response scale ranged from 0 (did not experience the emotion at all) to 8 (experienced the emotion more strongly than ever before).

Demand Characteristics manipulation check ($\alpha = 0.93$): Participants completed a four item manipulation check that assesses the extent to which they understood the experimenter's hypotheses (Rubin, Paolini, & Crisp, 2010).

Task-Specific Self-confidence ($\alpha = 0.93$): Participants completed a five-item measure of task-specific self-confidence (e.g. "I think my initial estimates are accurate," Gino et al., 2012). Items were assessed on a seven point Likert scale, with responses ranging from strongly disagree to strongly agree.

Trust in Motives ($\alpha = 0.85$): Participants completed a five-item measure of trust in motives, developed for this study. Items were assessed on a seven point Likert scale, with responses ranging from strongly disagree to strongly agree. Trust in advisor motives had an initial alpha of 0.83, which increase to 0.85 after dropping reverse-scored item #2 ("I don't think the advisor will be motivated to provide good estimates").

Trust in Competency ($\alpha = 0.91$): Participants completed a five-item measure of trust in advisor competency, developed for this study. Items were assessed on a seven point Likert scale, with responses ranging from strongly disagree to strongly agree. The five item scale had an initial alpha of 0.88, which increased to 0.91 after dropping reverse-scored item #3 (“I don’t think this advisor can provide me with useful information”).

Dependent variables:

Willingness to pay for advice: Participants responded to the following item on a seven point Likert scale. “In previous studies that we’ve done on this topic, many participants agreed that the advice from this advisor was worth 20 cents. How willing would you be to pay 20 cents in order to get this advice?”

Advice use (WOA): Advice use is defined as the extent to which participants change their final estimate from their initial estimate, as measured by the commonly used Weight of Advice (WOA) metric. WOA ranges from zero to one, where higher numbers indicate more advice use.

CHAPTER THREE

RESULTS

Scales and Manipulation Checks

Scale Reliability: To assess the reliability of each scale, alphas were computed and it was assessed whether any item brought down the scale's internal consistency. One item from trust in competency, and one item from trust in motives, did not fit as well and brought down the internal consistency and were removed from the scales.

Several CFAs were conducted to compare how the items on the three moderators (trust in competency, trust in motives, and self-confidence) mapped onto each other (see Table 1). A single-factor model was conducted initially, followed by a two factor model composed of the self-confidence items as a distinct dimension, and all trust items clustered as a second dimension. This was followed by a three factor model distinguishing between trust in motives and trust in competency, one that included all 15 items, and a second that used 13 items and excluded one item each from trust in competency and trust in motives that exhibited poor fit. As shown in the table, each new model offered incremental improvement over the previous model. The final three-factor model had a relatively good fit (RMSEA=0.08, GFI=0.91, SRMR=0.05), suggesting that these measures assess three distinct constructs.

Computing scale averages: Scale averages were computed for task-specific self-confidence, trust in motives, trust in competency, regret, anger, pride, and gratitude. Average WOA across the three judgment estimation trials was also calculated. If the advisor's estimate was identical to the judge's initial estimate, this trial was excluded

from the average for that participant. Four participants had an initial estimate that was identical to the judge's initial estimate on one trial, and no participants had a matching initial estimate on two or three trials.

Demand characteristics manipulation check: Seventeen participants indicated at an average of “agree” or higher that they believed that they had an understanding of the research purpose and hypotheses. Analyses were run with and without these participants, and results did not differ significantly between these two samples on any hypothesis tests. Results are reported for the full sample.

Emotional writing task manipulation check (content): ‘Vivid recall’ emotional writing responses were scanned to ensure that the writing content matches the assigned mood manipulation task. Participants that did not follow the directions for the writing task were identified.

Seven emotional writing content responses incompletely matched the assigned mood manipulation. Four participants in the regret condition wrote about an event where they regretted the behavior/actions of someone else. One participant in the pride condition expressed pride in their ability to withstand the negative, bullying actions of another person (and expressed anger towards this person). One participant in the gratitude condition expressed significant self-focused pride (as well as other-focused gratitude). A second participant in the gratitude condition expressed other-directed gratitude for a task that was not done on his/her behalf, but rather for someone else. Analyses were run twice, once with compliant participants only, and once with the full sample. Results did not

significantly differ between these samples. Data reported in this study is for the full sample.

Emotion manipulation check (experienced moods/emotions): I conducted between subjects T tests for all emotion subgroups, testing for the following expected outcomes: (1) Subjects in the ‘regret’ condition will score significantly higher on ‘regret’ scale items than on the other emotion items, (2) subjects in the ‘pride’ condition will score significantly higher on ‘pride’ scale items than on the other emotion items, (3) subjects in the ‘gratitude’ condition will score significantly higher on ‘gratitude’ scale items than on the other emotion items, and (4) subjects in the ‘anger’ condition will score significantly higher on ‘anger’ scale items than on the other emotion items.

For all emotion conditions, subjects rated themselves significantly higher on their respective manipulation check emotion scale than all other emotion conditions (see Table 2). This, in addition to the qualitative check of the emotional writing task content, lends support that the participants actually experienced the emotions within their condition, at a higher level than other emotions and other conditions.

Hypothesis Tests

The hypothesis tests in this study fall into three broad categories. Hypotheses 1-6 test the relationships between advice outcomes and scale responses for self-confidence, trust in competency, and trust in motives. Hypotheses 7, 11, 14, and 18 test the direct effects of emotion condition on advice outcomes. Hypotheses 8, 12, 15, and 9 test the direct relationships between emotions conditions and self-confidence, trust in competency, and trust in motives. Hypotheses 9-10, 13, 16-17, and 20-21 consist of

various mediation tests, exploring whether the relationships between emotions and advice outcomes are partially mediated by self-confidence, trust in competency, and trust in motives.

Main effects of confidence/trust variables on DVs (hypotheses 1-6)

The first two hypotheses concerned the relationship between task-specific self-confidence and the two advice outcomes (see Tables 3 and 4). The first hypothesis was not supported as task specific self-confidence was not a statistically significant predictor of the willingness to pay for advice ($F(1,255) = .04, p = .85$). The second hypothesis was supported as self-confidence was negatively related to advice use ($F(1,255) = 7.67, p = .01, r = 0.17$).

The next two hypotheses examined the relationship between trust in both advisor motives and the two advice outcomes (see Tables 3 and 4). The hypothesized relationship between trust in motives and willingness to pay for advice was supported ($F(1,255) = 12.67, p < .001, r = 0.22$), but there was no statistically significant relationship between trust in motives and advice use ($F(1,255) = 1.22, p = .27$).

Hypotheses five and six pertained to the relationship between trust in competency and both advice outcomes (see Tables 3 and 4). Both hypotheses were supported, as trust in competency was positively related to willingness to pay for advice ($F(1,255) = 40.43, p < .001, r = 0.37$) and advice use ($F(1,255) = 5.75, p = .02, r = 0.15$).

Main effects of emotion manipulation on DVs (hypotheses 7, 11, 14, and 18)

Hypothesis seven explored the direct relationship between regret and both advice outcomes (see Tables 5 and 6). While judges in the regret condition expressed

significantly more willingness to pay for advice than participants in the control condition ($t(102)=2.001, p=.047, r=0.19$), there was no statistically significant relationship between regret and advice use ($t(102)=0.562, p=.58$).

Hypothesis eleven pertained to the direct relationship between pride and judge willingness to pay for (H11a) or use (H11b) advice (see Tables 5 and 6). There was no statistically significant relationship between pride and willingness to pay for advice ($t(110)=1.26, p=.21$), or advice use ($t(110)=0.02, p=.98$).

Hypotheses fourteen explored the direct relationship between anger and both advice outcomes (see Tables 5 and 6). There was no statistically significant relationship between anger and willingness to pay for advice ($t(105)=0.33, p=.74$), or between anger and advice use ($t(105)=-0.83, p=.40$).

Hypothesis eighteen assessed the extent to which gratitude is related to willingness to pay for advice and advice use (see Tables 5 and 6). Participants in the gratitude conditions did not significantly differ from the control condition on willingness to pay for advice, $t(98)=.11, p=.91$. They also did not significantly differ from the control condition on advice use, $t(98)=.36, p=.72$.

Relationships between emotions and proposed mediators

Hypothesis eight explored the direct relationship between regret and the proposed mediating variables. Neither self-confidence ($t(102)=0.86, p=.39$), trust in motives ($t(102)=0.70, p=.48$), nor trust in competency ($t(102)=0.84, p=.40$) were significantly related to regret.

Hypothesis twelve assessed the direct relationship between authentic pride and self-confidence, the proposed mediating variable between pride and advice behavior. There was no statistically significant relationship between pride and self-confidence ($t(110)=-0.75, p=.46$).

Hypothesis fifteen proposed that there would be a direct relationship between anger and all three proposed mediators. However, there was no statistically significant relationship between anger and task specific self-confidence ($t(105)=0.56, p=.58$), trust in motives ($t(105)=1.03, p=.30$), or trust in competency ($t(105)=1.85, p=.07$).

Hypothesis nineteen proposed that gratitude would be positively related to trust in motives and trust in advisor competency. Participants in the gratitude conditions did not significantly differ from the control condition on trust in motives ($t(98)=.50, p=.62$) or trust in competency ($t(98)=.60, p=.55$).

The results from all statistical tests for hypotheses 8, 12, 15, and 19 are displayed in Table 7.

Indirect Effects Tests

According to Baron and Kenny (1986), indirect effect tests should only be conducted when the path between the independent variable and the DV (path c), the independent variable and the mediator (path a), and the mediating variable and the DV (path a) are all statistically significant. These conditions were not all true for any of the mediation hypotheses in this dissertation, so none of these indirect effects tests were conducted.

CHAPTER FOUR

DISCUSSION

This discussion section will begin by discussing the significant main effects of trust and self-confidence on advice behavior and their implications for future research. From there, it will address the nonsignificant relationships between emotions and advice behavior, as well as between emotions and the proposed mediating variables of trust in motives, trust in competency, and self-confidence. It will then transition to the unique contributions of this study, as well as address some of its limitations. Finally, this section will end by discussing future research directions.

Trust, Self-Confidence, and Advice

As expected, task-specific self-confidence was significantly related to advice use. Judges that had a high opinion of the accuracy of their own estimates were less likely to use new information (advisor estimates) into their final answer, despite this advice being of good quality. This is consistent with other research that has found that task-specific self-confidence is a good predictor of advice use (Slade, 2010).

Self-confidence was not significantly related to willingness to pay for advice. Godek and Murray (2008) found that individuals who are low on domain-specific knowledge are more willing to seek advice, even at a cost to themselves. In the Godek and Murray (2008) study, domain-specific knowledge was measured objectively in terms of task experience (prior trials completed), while task-specific self-confidence was measured via a self-rating in this study. While it was expected that task-specific self-

confidence would likewise be correlated with willingness to pay for advice, this was not the case, as individuals with high self-confidence were about as likely to indicate a willingness to pay to receive the estimates of an advisor.

Since no feedback was given on the accuracy of the individuals' responses on the trials, it is also possible that self-confident individuals would be willing to incur a cost to verify that their answers were indeed accurate. Decision makers typically find uncertainty to be less pleasurable than confidence (Smith & Ellsworth, 1985). Judge-advisor agreement is desirable for decision makers since it reassures them and allows them to experience closure on a decision without expending additional cognitive energy (Savadoria, Van Swol, & Sniezek, 2003). It may be particularly desirable for individuals that expect that they have performed well on a task to seek feedback, particularly if they have a strong performance-prove goal orientation (Vandewalle, 2003).

Individuals that expressed high trust in motives were more likely to express their willingness to pay for the advice of the advisor. This is an important finding because most previous research had actually looked at the relationship between paying for advice and trust in the opposite causal direction (Patt et al., 2006). Paying for advice can increase the perceived trustworthiness and credibility of an advisor, but individuals are also more willing to pay for advice from someone that they perceive as trustworthy and credible.

The relationship between trust in motives and advice use was nonsignificant, but in the expected direction. Judge trust in motives is primarily tied to value similarity (Siegrist et al, 2003), advisor incentives (Patt et al., 2006), and the extent of a pre-existing

relationship (Feng & MacGeorge, 2006). The advisor vignette did not provide much information about the advisor with which to assess the advisor's values. Primarily, the advisor vignette emphasized that the advisor was confident in the quality of his estimates. The judges were not provided with any justification as to why the advisor would be motivated to provide accurate or inaccurate advice, and there was no pre-existing relationship between the advisor and the judge. It is possible that there was not enough variability in trust in motives to yield a statistically significant relationship between advice use and trust in motives.

Trust in advisor competency was positively correlated with both advice use and expressed willingness to pay for advice. Judges that expressed that the advisor was likely to provide good advice were more likely to use the advice once they received it. This is consistent with other research that has suggested a relationship between trust in advisor competency and advice use. This probably occurs via a comparison method, where judges assess whether they believe that the advisor is more competent than themselves (Harvey & Fischer, 1997). This comparison may be influenced by overconfidence or other heuristics or biases, although it may be possible to recalibrate decision makers to more accurately assess their own ability as compared to an advisor. When judges and advisors give similar answers, there is no need to change one's answer. However, if they believe that the advisor is less accurate than themselves, they are significantly less likely to use advice (Gino & Moore, 2007).

Judges were also more willing to pay for advice when they expressed a high degree of trust in the competence of the prospective advisor. This is theoretically

consistent with the judge-advisor comparison and the relationship between advice use and trust in competency, but this is the first time (to this author's knowledge) that this has been tested empirically. This statistically significant relationship between trust in advisor competency and willingness to pay for advice is an important result that has implications within the domain of advice research.

It is worth considering whether both trust in motives and trust in competency are necessary drivers for advice use and willingness to pay for advice, and whether one is more important than the other. In this study, trust in advisor competency was more strongly related to advice use and willingness to pay for advice than trust in advisor motives. However, that may be a function of the study design. Previous advice studies have included language indicating that the advisor may have a conflict of interest or different incentives than the decision-maker (Gino et al, 2012). The design of this particular experimental task did not explicitly invite speculation on the motives of the advisor. As the advice was framed in the experimental vignette, the advisor was simply providing advice because he or she was confident in his or her estimates and thought that other could benefit from them. Therefore, trust in advisor competency may have been perceived as more important as there was no apparent conflict of interest or misaligned incentives. Further research may shed light on the relative importance of trust in competency and trust in motives on advice behavior.

Emotions and Advice

Individuals in each experimental condition indicated that they experienced the emotion associated with their creative writing task at a level significantly higher than the

other emotional conditions. However, these emotions did not fit the expected pattern of results proposed in this study's mediation model.

As expected, judges in the regret condition were significantly more willing to pay for advice. However, regret was not significantly related to the proposed mediators of trust in competency, trust in motives, or self-confidence.

Other hypotheses pertaining to the relationship between emotional conditions and advice behavior were nonsignificant. Likewise, relationships between emotions and the proposed mediators were also nonsignificant. Therefore, it was not appropriate to test the broad mediation model set forward in the dissertation proposal.

Significant Contributions

This study lays out a broad framework for how judge characteristics, advisor characteristics, and task characteristics directly influence advice outcomes such as advice use and willingness to pay for advice. While the field of advice research has grown rapidly in the last two decades, this kind of integrative model can provide a valuable way to synthesize and describe how new variables of interest are related to existing findings.

Four of the studies' six hypotheses regarding trust, self-confidence, and advice behavior were supported. In particular, the significant relationship between trust in competency and willingness to pay for advice is a unique contribution to the domain of advice research. Prior research on advice cost and trust in advisor has tended to focus on the effect of paying for advice on trust, rather than the other way around. It is important to recognize that this relationship between perceived advisor competency and advice cost

can be cyclical and self-reinforcing (e.g. a decision maker pays for based on an expectation of competency, which is reinforced further by the act of paying for it).

Tests involving incidental emotions set a higher bar for interventions, as it is expected that integral emotions more powerfully affect decision-making processes (Loewenstein & Lerner, 2003). The failure of this study to yield significant results may suggest that incidental emotions need to rise to a certain level of salience in order to impact advice behavior, although other studies using incidental emotions have yielded statistically significant results (e.g. Gino & Schweitzer, 2008).

This study also provided new measures for trust in advisor competency and trust in advisor motives that have strong internal consistency, are distinct from each other and are tailored for use in advice research. These measures, if used in future studies, may provide more nuance than existing unidimensional trust measures.

Limitations

Prior to conducting this study, it was clear that this was a conservative test of the effect of emotions on advice behavior, since we were using incidental emotions that were manipulated in the middle of a decision task. Also, by administering measures post hoc, it is possible that some of the vividness of the experience may have faded. This is reflected in the non-significant relationships between emotion conditions and measures of trust in self and others as well as advice behavior. Future research should consider the extent to which they are able to influence emotional experience from a distance, and may want to take further steps to isolate participants.

Concerns with quality of participant responses may be warranted, as it is possible that the participants were multitasking while completing the study or otherwise distracted. However, other factors suggest that most or all participants were engaged. Good scale internal consistency despite randomized questions, strong agreement with emotions manipulation check, emotional content of qualitative ‘free response’ section, and general naiveté about the purpose of the study all suggest that participants did experience these emotions to some extent. Other controls also filtered out participants that failed a comprehension check for instructions.

Although the experimental task of estimating coins has been used in previous studies of advice use (See et al., 2012; Tost et al., 2012), it is possible that the study would have benefited from a task requiring higher levels of effort and/or skill. Some people have expressed concern about the effort of professional Mturkers who are contingent on completing tasks quickly in order to maximize work output and earn a reasonable wage (Crump et al., 2013). However, analyses were run a second time, excluding ‘rapid responder’ participants that completed the experimental task in fewer than six minutes, and there was no difference in the statistical significance of any hypothesis tests.

Future Research Directions

One interesting avenue of future research is to conduct an advice study that uses integral emotions actually experienced during the decision making process as opposed to incidental emotions inserted in a laboratory. Possible opportunities to conduct such research might include a sample of first-time homebuyers or other consumers

contemplating a major purchase, or individuals considering a significant, emotionally charged decision such as a medical procedure. Access to such samples may pose a significant challenge, but the insight of such research would be significant.

Future studies could follow up regarding the relative importance of trust in motives vs. trust in competency. One intriguing possibility is that trust in competency and trust in motives are distinct constructs but mutually linked, each serving as a necessary-but-not-sufficient condition for advice use. Another possibility is that one dimension of trust may be relatively more important when determining receptiveness to advice. A follow-up study could test for the moderating effect of trust in competency on trust in motives, using ratings of trust in competency and trust in motives as well as a (mean-centered) continuous interaction term. Another option would be to use a 2x2 factorial design including conditions that incorporate both high and low advisor trust in motives, crossed with both high and low trust in advisor competency, to test main effects and interactions.

APPENDICES

Appendix A

Measures

Demographics / Screening Questions:

Age

Educational attainment

Gender

Race/Ethnicity

All scales are 7-point likert scales unless otherwise indicated.

Trust in Competency

I trust that this advisor can provide quality judgments

I believe that the advisor is relatively knowledgeable

I don't think this advisor can provide me with useful information (R)

I believe that the advisor has the ability to make good judgments

I expect that the advisor is reasonably competent

Trust in Motives

I trust that the advisor will try to provide his or her best judgments

I don't think the advisor will be motivated to provide good estimates (R)

I have confidence that the advisor intends to provide useful information

I believe that the advisor will want to provide estimates that are viewed as useful

I doubt the advisor will try to give accurate estimates (R)

Task-Specific Self-confidence (Gino, Brooks, & Schweitzer, 2012) (alpha = 0.76)

I think my initial estimates are accurate

I think my initial estimates are close to the true value

I am very certain about the accuracy of my judgments

I am sure I am performing well on this task

I have no doubt my estimates are close to the true values.

Demand Characteristics Manipulation Check (Rubin et al, 2010)

(alpha=0.77)

I knew what the researchers were investigating in this research.

I wasn't sure what the researchers were trying to demonstrate in this research. (r)

I had a good idea about what the hypotheses were in this research.

I was unclear about exactly what the researchers were aiming to prove in this research. (r)

Manipulation Check for Estimation Study part 1: 4-option multiple choice questions.

I will receive a financial bonus if my estimate is within _____ of the correct answer.

I will receive _____ if my estimate is within X of the correct answer.

Manipulation Check for Estimation Study part 2: 4-option multiple choice questions.

I will receive a financial bonus if my final estimate is within _____ of the correct answer.

I will receive _____ if my estimate is within X of the correct answer.

Manipulation Check for Vivid Recall Study: Responses range from 0 (did not experience the emotion at all) to 8 (experienced the emotion more strongly than ever before).

*“Please report the extent to which you experienced the following emotions during the Vivid Recall Study. **Anger** (mad, angry, furious), **Regret** (regret, remorse), **Authentic Pride** (accomplished, successful, proud), **Gratitude** (grateful, appreciative, thankful), **Neutral** (neutral, indifferent, unemotional).”*

Appendix B

Tables

Table 1

	χ^2	<i>Df</i>	χ^2/df	χ^2 diff	GFI	RMSEA
Single Factor	1483.50	90	0.48	-	0.30	0.48
Two Factor (Trust and Self Confidence)	549.92	89	6.18	933.58	0.72	0.15
Three Factor, 15 items (Trust in Motives, Trust in Competency, Self Confidence)	307.04	87	3.53	242.88	0.85	0.10
Three Factor, 13 items (Trust in Motives, Trust in Competency, Self Confidence)	159.72	62	2.58	147.32	0.91	0.08

Table 1: Goodness-of-Fit indicators of moderators with and without extra items

Table 2

Condition	Average of Anger Scale	Average of Regret Scale	Average of Neutral Scale	Average of Gratitude Scale	Average of Pride Scale
Anger	3.69	1.83	2.61	1.94	2.38
Regret	2.06	3.93	2.90	2.24	2.17
Neutral	1.24	1.38	3.91	3.44	3.41
Gratitude	1.27	1.24	1.99	5.53	3.50
Pride	1.19	1.44	2.76	4.05	4.45

Table 2: Emotion scale averages for each between-subjects experimental condition

Table 3

Hypothesis	Independent Variable	df	F test	P value	r	Direction (or N.S.)	Supports hypothesis
1	Self Confidence	255	0.04	0.85	-	n.s.	No
3	Trust in Motives	255	12.67	<.001	0.22	+	Yes
5	Trust in Competency	255	40.43	<.001	0.37	+	Yes

Table 3: Direct relationships between proposed mediators and willingness to pay for advice

Table 4

Hypothesis	Independent Variable	df	F test	P value	r	Direction (or N.S.)	Supports hypothesis
2	Self Confidence	255	7.67	0.01	0.17	-	Yes
4	Trust in Motives	255	1.22	0.27	-	n.s.	No
6	Trust in Competency	255	4.75	0.02	0.15	+	Yes

Table 4: Direct relationships between proposed mediators and advice use

Table 5

Hypothesis	Independent Variable	df	t test	P value	r	Direction (or N.S.)	Supports hypothesis
7a	Regret	102	2.001	0.047	0.19	+	Yes
11a	Pride	110	1.26	0.21	-	n.s.	No
14a	Anger	105	0.33	0.74	-	n.s.	No
18a	Gratitude	98	0.11	0.91	-	n.s.	No

Table 5: Direct relationship between emotion conditions on willingness to pay for advice

Table 6

Hypothesis	Independent Variable	df	t test	P value	r	Direction (or N.S.)	Supports hypothesis
7b	Regret	102	0.562	0.58	-	n.s.	No
11b	Pride	110	0.02	0.98	-	n.s.	No
14b	Anger	105	-0.83	0.4	-	n.s.	No
18b	Gratitude	98	0.36	0.72	-	n.s.	No

Table 6: Direct relationship between emotion conditions and advice use

Table 7

Hypothesis	Relationship	df	t test	P value	r	Direction (or N.S.)	Supports hypothesis
8a	Regret + Self Confidence	102	0.86	0.39	-	n.s.	No
8b	Regret + Trust in Motives	102	0.7	0.48	-	n.s.	No
8c	Regret + Trust in Competency	102	0.84	0.40	-	n.s.	No
12	Pride + Self Confidence	110	-0.75	0.46	-	n.s.	No
15a	Anger + Self Confidence	105	0.56	0.58	-	n.s.	No
15b	Anger + Trust in Motives	105	1.03	0.30	-	n.s.	No
15c	Anger + Trust in Competency	105	1.85	0.07	-	n.s.	No
19a	Gratitude + Trust in Motives	98	0.5	0.62	-	n.s.	No
19b	Gratitude + Trust in Competency	98	0.6	0.55	-	n.s.	No

Table 7: Relationships between emotions and mediators

Appendix C

Figures

Figure 1

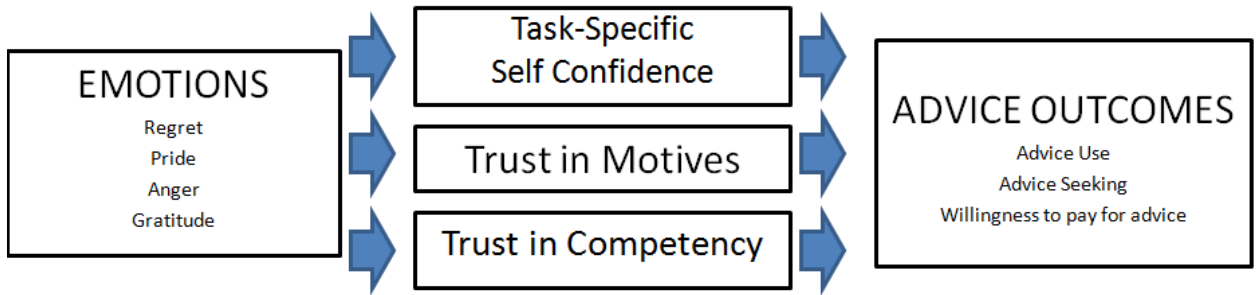


Figure 1: Proposed mediation model

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