THE ROLE OF DISPOSITIONAL FACTORS ON VERACITY JUDGMENTS ACCURACY AND BIAS

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ABSTRACT

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This study investigated the relationship between the dispositional factors of mindfulness, trust, and communicative suspicion and their role in influencing veracity judgment accuracy and truth bias in interpersonal communication. Participants (n = 178) completed four scales measuring their dispositional levels of mindfulness, trust, and communicative suspicion and made veracity judgments on 20 video clips in which people were either lying or telling the truth. Significant relationships were found between the variables of trust, communicative suspicion, and trust bias. Individuals with higher levels of general trust displayed an increased bias towards the truth. Further analysis showed that specific aspects of mindfulness shared a relationship with veracity judgment accuracy. Individuals who were better at describing their experiences displayed a decreased ability to accurately judge veracity. The results from this study will add new insights to the current literature on the role individual differences play in assessing veracity in interpersonal communication.

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CHAPTER I

INTRODUCTION

Deception and lying are commonplace in interpersonal communication. On average, people report telling one to two lies per day, usually with the intent to either avoid harming another person or to benefit oneself (DePaulo et al., 1996). With lying being such a common and often pernicious part of social interactions, people are inclined to identify deceptive people and to distinguish lies from truth. People tend to show overconfidence and maintain a belief that they are proficient lie detectors (DePaulo et al., 1997; Vrij, 2008). On the contrary, most people are only slightly better than chance (54%, where chance levels would be 50%) when it comes to their overall accuracy in discerning lies from truths (Bond & DePaulo, 2006), and this better than chance detection rate seems to be the result of a few easily detectable liars (Levine, 2010). Furthermore, when one breaks down that 54% accuracy rate to just detecting lies, accuracy rates drop below chance levels (47%; Bond & DePaulo, 2006; Levine, 2020). When it comes to individual abilities in detecting liars, some researchers have claimed there are "truth wizards" who have an exceptional deception detection rate of 70% (Ekman & O'Sullivan, 1991), but a closer examination of these claims suggests they are gratuitous and likely due to chance variation in detection rates (Bond & Uysal, 2007).

Since there is a consensus in the deception literature that people are not very accurate at detecting lies, researchers have asked if people can accurately detect truthful

statements; they have found that people are far more accurate at detecting truths than lies (Levine, 2020; Vrij, 2008). One reason for why people are better truth detectors than lie detectors is a truth bias. People are biased to believe that the communication of others is honest, regardless of whether it actually is or not. Experimental research has identified several factors that can influence the strength of truth bias exhibited during attempted deception detection. For example, familiarity with the speaker and face-to-face communication increases the inclination to believe that others are truthful (Buller et al., 2009; Levine & McCornack, 1992), whereas experimentally-induced suspicion reduces this inclination (McCornack & Levine, 1990). Despite the identification of several factors that can influence truth bias, there has been very little research investigating whether individual psychological differences influence the degree to which people are truth biased nor has much research explored if those characteristics impact the accuracy of detection.

Three psychological variables that have received relatively little attention in deception detection research are dispositional mindfulness, trust, and suspicion towards communication. In deception research, trust and suspicion are two factors that are commonly investigated and manipulated; however, few studies have looked at the role of enduring traits of these factors in truth accuracy and bias. One study looked at generalized trust in the context of lie detection but not how it influences truth bias (Carter & Weber, 2010). Studies that have researched one's tendency to be suspicious, namely suspicion of communication, have focused more on the veracity judgments of police officers and prisoners rather than the general population (Bond & Lee, 2005; Masip et al., 2016). Lastly, a small amount of research has investigated the role of mindfulness in

veracity judgments accuracy and bias. The literature that has addressed this topic has focused on the use of contemporaneous mindfulness interventions to improve veracity judgments (Freshman, 2018; Freshman et al., 2016) rather than exploring trait mindfulness as a factor of influence. Additionally, there has been no research examining all three of these dispositional factors and their relationships with each other in one study. Therefore, this study has three goals: first, to examine the relationship between the propensity to be mindful, trusting of others, and to be suspicious of communication; second, to investigate whether these factors have a relationship with the tendency to be truth biased; and third, to explore whether these dispositional factors covary with veracity judgment accuracy.

CHAPTER II

LITERATURE REVIEW

The definition of deception varies between researchers; however, there is a common consensus that deception in humans involves a conscious, deliberate, or intentional attempt to mislead someone (Buller & Burgoon, 1996; DePaulo & DePaulo, 1989; Levine, 2014; Pinnock, 2019; Vrij, 2008). Deception can take many forms such as camouflage, mimicry, concealment, and misdirection. Among humans, a common form of deception is a lie, which Levine (2020) defines as an "outright falsehood, which is consciously known to be false" (p. 102). However, this definition is a bit broad and does not capture all the nuances a lie can entail. For instance, many lies are not outright falsehoods, but rather subtle exaggerations or concealments of key information. On the other hand, Vrij (2008) gives a narrower definition in which a lie would entail "a successful or unsuccessful deliberate attempt, without forewarning, to create in another a belief which the communicator considers to be untrue" (p.15). Vrij's (2008) definition is more specific, but it can still be considered too broad since anything meant to deceive another could be a considered lie. For example, in the world of online dating, one could argue that the use of make-up to enhance or change physical features is a lie. The lack of linguistic features makes this definition of lying too broad as well. With that, Hart (2019) proposes that the "manipulation of language" should be added to Vrij's (2008) definition to give a clearer sense of what lay people generally think of when defining a lie. The bulk of lies being used in deception research are those that meet the criteria of being untrue

statements (verbal or written), that the communicator believes to be untrue, that are told with the intent to mislead the listener. With a lie defined, much of the research on deception and lying has focused on uncovering the prevalence of lies, the cues that distinguish liars from truth-tellers, and the accuracy of people who are attempting to detect those lies (Levine, 2020; Vrij, 2008).

There is a pervasive assumption in the deception literature that deception is commonplace in interpersonal communication, often referenced to a classic 1996 diary study reporting on the prevalence of lying in daily life (DePaulo et al., 1996). In that study, DePaulo et al. (1996) recruited students and community members and asked them to keep track of the number of lies they told during their social interactions over a two-week period. Each time participants had a social exchange that was at least ten minutes long, they noted in a diary whether they had lied and what they had lied about. The results of the study revealed that people told, on average, one to two lies per day (DePaulo et al., 1996). Additional studies have largely replicated DePaulo et al.'s (1996) findings. When examining the use of deception in different contexts (e.g., face-to-face, text messaging, and emailing) participants reported lying at similar rates (George & Robb, 2008; Hancock et al., 2004). However, many of these studies are difficult to generalize to broader populations and do not take individual differences into account.

More recent and larger scale studies have revealed that lying is not as prevalent or normally distributed as prior research had suggested. Recent work has revealed that the frequency of lying is positively skewed by a small percentage of prolific liars who tell the bulk of lies, while most people remain fairly honest (Serota et al., 2010). In three studies,

Serota et al. (2010) found that almost half of lies told from a sample of 1,000 individuals were told by only 5% of the participants. Additionally, when Serota et al. (2010) reanalyzed the results from DePaulo et al. (1996) and George and Robb (2008), they found a similar positive skew with a small proportion of the participants telling the bulk of the lies.

Being that deception and lying figures largely in our social interactions and has the potential to be quite consequential in a number of contexts (e.g., criminal justice, romantic relationships, or finance), a significant segment of deception research has been devoted to examining the accuracy with which people can detect liars. There is a consensus among deception researchers that people's ability to detect lies is quite deficient, despite the fact that people typically express confidence in their ability. In two widely cited and notable studies, people only detected lies slightly more (54%) than if they were to toss a coin (50%; Bond & DePaulo, 2006; Vrij et al., 2001). Even extensive behavioral/vocal cues training aimed at increasing people's accuracy at detecting lies has produced only modest improvements (Sooniste et al., 2016).

Since research has revealed that people are poor at discerning lying in social interactions, researchers have turned to trying to identify verbal and nonverbal cues that can aid in the improvement of deception detection. One of the reasons why people are poor at accurately discerning deception may be because they hold incorrect beliefs about what deceptive behaviors look like. Research has shown that people tend to believe that liars will fidget more (Hart et al., 2006), avert their gaze (Bogaard et al., 2016; Mann et al., 2002; Stromwall & Granhag, 2003), or appear more anxious than people who are

telling the truth (Bogaard et al., 2016). Contrary to these beliefs, research has shown that liars display decreases in body movements (Granhag & Stromwall, 2002; Vrij et al., 2001) and increased eye contact (Granhag & Stromwall, 2002), with other behaviors showing no change when lying. Other studies have revealed that verbal cues can give a liar away. Researchers have found that when lying, people often take longer pauses (Mann et al., 2002; Vrij et al., 2001), provide fewer details, use more filler words, use fewer words overall (Granhag & Stomwall, 2002; Levitan et al., 2018), and the pitch of their voice tends to be higher (Buller & Burgoon, 1996), though all of these changes tend to be slight and inconsistent. By identifying accurate verbal and nonverbal cues of deception, researchers have tried to implement training to improve deception detection accuracy rates (DePaulo et al., 1982; Santarcangelo et al., 2004). Reviews of these types of training have shown they increased the accuracy of detection; however, the degree of improvement was very slight (Frank & Freely, 2003; Hauch et al., 2016).

New Approach to Deception Research

One theory that has proposed why people have such poor accuracy when discerning dishonesty is truth-default theory (Levine, 2014; Levine et al., 1999). The theory suggests that humans have inherited an evolved cognitive bias about the honesty of others. The theory proposes that over hundreds of thousands of years, humans evolved in small social groups in which goals tended to be shared and cooperation was an imperative (Levine, 2020). The theory posits that most communication within those bands was likely honest communication. Therefore, evolution shaped human social perception toward a default trust in others' communications rather than expending

unnecessary resources and energy assessing the veracity of every communication. As a consequence of this evolved cognitive bias, modern humans tend to judge the communication of others with a truth bias or from a truth-default state (Levine, 2014; Levine et al., 1999). Truth bias, then, is the tendency for people to passively accept the content of communication as honest and true, irrespective of its actual veracity (McCornack & Parks, 1986). Levine (2014) proposed that truth bias or truth-default is typically adaptive in nature because it facilitates efficient, accurate, and effective communication. However, this tendency to generally judge messages as true can cause individuals to fall victim to deception.

Factors that Influence Truth Bias

Despite the tendency to assume truthfulness in others, several factors can influence the level of truth bias. For example, truth bias increases when communicative interactions are face-to-face and are with familiar people (Buller et al., 2009; Levine & McCornack, 1992). The speaker's behavior or demeanor can also increase truth bias. Research by Van Swol et al. (2013) found that speaker demeanor plays a significant role in truth bias with people being perceived as honest when they provide believable sounding answers, smile frequently, act pleasant, participate normally in conversations, and respond as expected during the interaction. Demeanors that seemed dishonest were identified as evasive answers, taking too long to answer, fidgeting too much, avoiding eye contact, and behaviors that were considered unusual or unexpected during the conversation. Additionally, recent research has shown a relationship between racial biases and truth bias. Truth bias increased for white participants who were motivated to

appear less racial prejudiced by labelling Black targets as more truthful than white targets (Lloyd et al., 2017). Lastly, research has identified that truth bias decreases for people who have more expertise in lie detection (i.e., police and inmates; Bond & Lee, 2005; Masip et al., 2016) or if suspicion levels are manipulated (McCornack & Levine, 1990).

The role of Trust, Suspicion, and Mindfulness in Veracity Detection and Bias

Trust and Suspicion

There is no question that trust and suspicion are important factors to consider in veracity detection. As noted previously, when suspicion is manipulated, the strength of truth bias being experienced can either increase or decrease (i.e., less cause for suspicion increases the probability of believing communication as honest). The same can be said about trust. While trust was not specifically examined as a variable that influences truth bias in the studies mentioned, it could be surmised that it does play a role. For example, truth bias increases when people are more familiar with the person who is speaking, especially when that person has a reputation of being honest. In Levine and McCornack's (1992) study, their reasoning for this increase was because participants were confident in their judgments about whether their partner was being truthful since they knew their behaviors. However, this increase in truth bias could be the result of trust in a familiar relationship versus an unfamiliar one. Research has shown that interpersonal trust levels increase when people are paired with familiar partners since they have more information to help assess trustworthiness than they would if paired with someone with whom they were unfamiliar (Alarcon et al., 2016).

The research on trust and suspicion mentioned thus far has focused on induced states of trust and suspicion rather than a person's natural propensity toward trust or suspicion. People can vary in their propensity to (dis)trust and be suspicious of others. It is important to note that while the constructs of suspicion and trust seem to be two sides of the same coin, they are separate, distinct constructs (Capiola et al., 2019; Sinacuer, 2010). Capiloa et al. (2019) showed that the variance in trust of another was only partially accounted for by the variance in suspicion of that person. A propensity toward trust can be characterized as a general expectation that people are trustworthy (Mayer et al., 1995; Yamagishi & Yamagishi, 1994), whereas suspicion propensity is a person's general inclination to be suspicious of others irrespective of the situation (Bobko et al., 2014).

Only a few studies have focused on how the propensity toward trust and suspicion influences veracity judgment accuracy and truth bias. Using a job interview context, Carter and Weber (2010) investigated whether higher levels of dispositional trust would improve the accuracy of detecting lies. They hypothesized that higher generalized trust would produce greater lie detection accuracy. Their reasoning is based Yamagishi's (2001) argument that dispositional trust is a highly adapted form of social intelligence where highly trusting people take more risks and obtain more social data to learn from, whereas people low in trust maintain suspicion and avoid risk, which does not allow them the opportunity to learn from deceptive encounters. Carter and Weber's (2010) results revealed that higher generalized trust did yield greater overall lie detection accuracy, but they did not investigate whether truth bias impacted the increased accuracy.

Even though suspicion is distinct from trust, some deception researchers have characterized suspicion as "the dark side of trust," owing to a tendency for increases in suspicion to be correlated with decreases in trust (Levine & McCornack, 1991, p. 325). In a process to better understand how individuals perceive the communication of others relating to deception, Levine and McCornack (1991) created a generalized communicative suspicion scale (GCS) to determine the level of an individual's natural inclination towards perceiving the communication of others as suspicious. The GCS has been utilized in several studies, namely ones that address the influence of this propensity in the veracity judgments of police officers. In a notable study, Masip et al. (2016) compared GCS scores of experienced and novice police officers with lay people. They found that GCS scores were higher for experienced officers than novice officers and lay people. It is suggested that this is the result of experienced officers being on the job longer. Furthermore, their study revealed that experienced and novice officers' GCS scores did not significantly impact veracity accuracy, but they did display a decrease in truth bias compared to non-officers.

Mindfulness

In recent decades, the exploration of mindfulness in psychological research has become increasingly popular (Brown et al., 2007; Van Dam et al., 2017). Stemming from Buddhism, mindfulness embodies a conscious, nonjudgmental approach to awareness in the moment (Brown & Ryan, 2003; Kabat-Zinn, 1994; Thera, 1972). Research on mindfulness has shown it to enhance well-being on psychological (e.g., mood regulation), physiological (e.g., stress-relief), and social (e.g., interpersonal closeness and social

interactions) levels (Brown & Ryan, 2003; Lindsay et al., 2019; Schreiner & Malcolm, 2008). Although research has shown that mindfulness can enhance social relationships by increasing emotional recognition, empathy, and interpersonal connectedness with others (Campos, et al., 2019; Hutcherson et al., 2008; Van Doesum et al., 2013), little research has explored whether mindfulness influences the way people assess the content veracity of communication with others.

The limited research on mindfulness and deception detection has focused on the application of mindfulness interventions to improve attention at detecting nonverbal behavioral cues (Burgoon et al., 2000; Freshman et al., 2016). Mindfulness interventions improve an individual's state level of mindfulness. State mindfulness occurs when an individual makes a conscious attempt to bring awareness and attention to their cognitions, emotions, and sensations without focusing on thoughts of the past or future (Kabat-Zinn, 1990). Researchers have suggested that embodying a more mindful state might help with detecting deception because the increased attentional focus allows the individual to look for incongruencies and inconsistencies between the verbal content non-verbal behaviors being expressed by the speaker (Burgoon et al., 2000).

Other theoretical applications of mindfulness have suggested that since mindfulness improves one's ability to pay attention, mindful individuals might have increased emotional awareness and ability to notice fast changes in micro expressions (Freshman, 2018; Freshman et al., 2016). Micro expressions are brief unintentional flashes or "leakage" of emotion that convey a person's true feelings and have been used as a means for detecting deception (Ekman & Friesen, 1969). For example, a person in a

more mindful state may have increased awareness that the brief moments of distress revealed by someone's eyebrows and their uncertain shrugs are inconsistent with their more positive verbal content. While there is some research exploring the theoretical framework that induced mindfulness meditation can aid deception detection through improved judgment making (Freshman et al., 2016), little research has explored the role of dispositional or trait mindfulness in deception-related social interactions.

Unlike state mindfulness, which is only temporary and activated with mindfulness training, dispositional or trait mindfulness is an individual's natural and stable propensity towards mindfulness in daily life (Baer et al., 2006; Brown & Ryan, 2003). There is clear evidence that people do vary in their trait mindfulness. Like state mindfulness interventions, research on dispositional mindfulness has also appeared to correlate with variations in social cognition and interpersonal relationships. Campos et al. (2019) found correlations between dispositional mindfulness and components of social cognition such as empathy and theory of mind (ToM). Additionally, Brown et al. (2004) found that dispositional mindfulness was positively related to feelings of social relatedness and interpersonal closeness (Brown et al., 2007; Brown & Ryan, 2003). Theoretically, one could propose that dispositional mindfulness might influence the strength of truth bias experienced in social interactions because of heightened empathy, social relatedness, and interpersonal closeness.

Aims of the Study and Hypotheses

The present study explored whether there exists a significant relationship between the dispositional factors of mindfulness, trust, communicative suspicion, and the

deception-related variables of truth bias and veracity judgment accuracy. I proposed that these dispositional factors influence one's ability to discern honest versus dishonest communication.

First, I aimed to explore the relationship between the dispositional factors of mindfulness, trust, and communicative suspicion. My two hypotheses were:

H1: Trait mindfulness will be positively correlated with generalized trust and negatively correlated with generalized suspicion towards communication.

H2: Generalized trust will be negatively correlated with generalized suspicion towards communication.

No studies have examined the relationship between mindfulness and suspicion and trust; however, these relationships can be theoretically linked based on the facets of these traits. For example, Stedham and Skaar (2019) suggests an integrative conceptual framework of effective leadership where mindfulness mechanisms of attention, reperceiving, self-regulation, and social awareness share a linkage to trust because both share similar components. Conversely, one can logically argue that trait mindfulness and generalized trust will be negatively correlated with suspicion because of the opposing aspects of these two characteristics. Trait mindfulness embodies the characteristics of non-judgment, positive affective, empathy, and social connectedness (Brown et al., 2007; Campos et al., 2019), whereas a propensity towards suspicion involves an active engagement in trying to perceive the potential mal intent of others (Bobko et al., 2014). Additionally, further studies have revealed that the propensity toward trust and suspicion appear to have a negative association with one another (Costa et al., 1991).

Second, I explored the relationship between truth bias and the dispositional factors of mindfulness, trust, and suspicion. My two hypotheses were:

H3: Generalized trust and trait mindfulness will positively predict truth bias.

H4: Generalized suspicion towards communication will negatively predict truth bias.

I predicted that trait mindfulness would share a positive relationship with truth bias. Mindfulness involves an embrace of social connectedness (Brown et al., 2007). It could be argued that a person who is more mindful will be truth biased because they feel an increased connection to others. This increased social connection could result in them defaulting to a truth response state to avoid negative consequences of warily scrutinizing others. My prediction on generalized trust can seem contradictory to the results presented in Carter and Weber's (2010) study where higher generalized trust yielded more selections of lies than truths which could indicate decreased truth bias. However, the sample size and low number of videos used in their study make the results hard to generalize. With an increase in videos to judge, high trusters may be prone to enter a truth-default state. Lastly, for Hypothesis 4, I predicted that suspicion of communication would have a negative relationship with truth bias, given that past studies have found decreases in truth bias with higher levels of GCS (McCornack & Levine, 1990). I hypothesized that this study would show similar results.

Third, I explored whether dispositional mindfulness, trust, and suspicion covary with veracity judgment accuracy. My two hypotheses were:

H5: Mindfulness and trust will predict an increased in veracity judgments accuracy.

H6: Suspicion towards communication will predict a decreased in veracity judgments accuracy.

Given the few studies on mindfulness interventions in deception detection, mindfulness allows individuals to gain a nonjudgmental awareness and control of their emotions, which allows them to make better judgments discerning the veracity of statements. Since trait mindfulness has been associated with these components, we can anticipate that higher levels of mindfulness will allow a person to make a judgment not clouded by emotions and incorrect assumption thus increasing their accuracy. Along with Carter and Weber's (2010) results of higher generalized trust increasing total veracity accuracy, Stel et al. (2020) conducted a study to examine if distrust would decrease the ability to accurately discern deceit and veracity. Similar to Carter and Weber (2010), Stel et al. (2020), found that distrust hampers one's ability to make accurate veracity judgments. Finally, Masip et al.'s (2016) study revealed that generalized suspicion of communication did not have an impact on veracity accuracy; however, I hypothesized in this study that higher GCS scores would correlate with a decrease in veracity accuracy because people with elevated GCS scores will be more like misjudge truthful statements as lies.

CHAPTER III

METHODOLOGY

Participants

One hundred and seventy-eight students (166 female, 9 male, 3 non-binary) from Texas Woman's University (TWU) were recruited to participate in the study. Their ages ranged from 18 years to 48 years old (M = 20.08, SD = 4.65). In the study, only participants older than 18 years were accepted for participation. There were 15 participants who did not finish the study, and one participant who did not meet the study's minimum age requirement. These participants were excluded from analysis, which resulted in the number of 178 participants. Participants were recruited from the TWU using the SONA system. The SONA system allows students to participate in studies for research credit.

Measures

Trait Mindfulness

The Mindful Attention Awareness Scale (MAAS; Brown & Ryan, 2003) is a 15-item scale designed to assess an individual's dispositional ability to be open, aware, and attentive to what is happening in the present (see Appendix A). For the current study, the MAAS was found to have high internal consistency reliability (α = .89). Participants were asked to select the option that best reflected their day-to-day experiences using a 6-point Likert scale ranging from 1 (*almost always*) to 6 (*almost never*). All items were presented in the same order. Trait mindfulness scores were computed by taking the average of all

the items. Higher scores reflected higher levels of trait mindfulness. An example item is, "I rush through activities without being really attentive to them."

The 15-item Five Facet Mindfulness Questionnaire (FFMQ-15; Baer et al., 2008; Gu et al., 2016; $\alpha = .74$) is a 15-item shortened version of the FFMQ (Baer et al., 2006) that assesses five facets of mindfulness (see Appendix B). Whereas the MAAS is associated with the self-awareness aspect of mindfulness, the FFMQ-15 measures individuals' levels of observing, describing, acting with awareness, non-judging inner experience, and non-reactivity to inner experience (Baer et al., 2008). These various facets of the FFMQ-15 expand beyond a single view of mindfulness (i.e., self-awareness) and touch on other components of mindfulness that involve attentional control and emotional regulation. This questionnaire contains three items for each facet that is measured on a 5-point Likert scale ranging from 1 (*very rarely true*) to 5 (*always true*).

Generalized Trust

General trust of others was measured using the General Trust Scale (Yamagishi & Yamagishi, 1994; $\alpha = .75$; see Appendix C). This 6-item questionnaire measures participants' tendency to believe others are honest and trustworthy using a 5-point Likert scale (1 *strongly disagree* to 5 *strongly agree*). Generalized trust scores were calculated by averaging the items together with higher scores reflecting a greater belief that people are, in general, trustworthy and honest. An example item is, "Most people are basically honest."

Generalized Communicative Suspicion

Generalized suspicion of communication was measured using the 14-item Generalized Communicative Suspicion Scale (GCS; Levine & McCornack, 1991; α = .78; see Appendix D). The survey asked participants to rate their agreement with statements assessing the individual's tendency to be suspicious of communicative interactions. Items were rated using a 7-point Likert scale ranging from 1 (*strongly agree*) to 7 (*strongly disagree*). Scores were computed by taking the average of all the items after reversing scores for items 9, 12, 13, and 14. Lower scores are indicative of being more dispositionally suspicious in communicative interactions. An example item is, "Most people only tell you what they think you want to hear."

Materials

Video Clips

As part of this study, participants watched 20 short video clips of target individuals telling the truth or lies after participating in a trivia game for a case prize. Ten of the clips included people lying, and ten of them included people telling the truth. Video clips were selected from Levine's (2007) NSF-funded cheating paradigm detection database (see Appendix E). The first 10 truths and 10 lies listed in the database were chosen to be used in this study. The subjects were mostly young individuals and varied in ethnicity. Half of the subjects in the video clips were male. Subjects in the video clips were participants in a study.

Each video was recorded with a female interviewer asking male and female subjects one-on-one if they had cheated after playing a trivia game. Prior to the interview,

the subjects participated in a game with a partner (confederate) for a cash prize and were provided the opportunity to cheat. During the game, the choice was up to the subjects as to whether they cheated or not.

The video clips were presented in a random order. All participants watched the videos in the same order, one video at a time. After each video, participants were asked to give a yes or no veracity judgement of the target individual. Participants were scored based on overall frequency of selecting truth, overall accuracy of judging correctly, accuracy of judging lies, and accuracy of judging truths.

Procedure

Participants were invited to participate in an online survey using the TWU SONA system. After signing up and volunteering to participate in this study, participants were given access to a Psychdata link that took them to the online survey. Informed consent was gathered, and participants were told that the purpose of the study was to examine the role of dispositional character traits on bias and accuracy in veracity judgments. Once consent was obtained, participants began the survey by answering a few demographic questions (e.g., age and sex) and then completed the MAAS, FFMQ-15, General Trust Scale, and the GSC scale. After completing the self-report scales, participants were asked to view and judge the honesty of people in each of the 20 video clips. After judging all the individual clips, participants were thanked for their time and were reminded to contact the primary researcher via email if they had any questions.

CHAPTER IV

RESULTS

The goal of this study was to better understand the relationship between the dispositional factors of mindfulness, trust, and communicative suspicion, and their effects on veracity judgment accuracy and bias. The variables of interest for this study were trait mindfulness, generalized trust, generalized communicative suspicion, truth bias, and veracity judgment accuracy. The data was analyzed using IBM SPSS Statistics for Windows, Version 25. The means and standard deviations for these independent dispositional variables were as follows: participants' MAAS scores averaged 3.56 (*SD* = .92), FFMQ-15 scores averaged 3.11 (*SD* = .45), General Trust scores averaged 3.2 (*SD* = .59), and GCS scores averaged 4.1 (*SD* = .77). The means and standard deviations for the dependent variables of veracity judgment accuracy and truth bias are as follows: participants were 65% (*SD* = .11) accurate at discerning the truth from the lies and 60% (*SD* = .13) truth biased. Before running the analyzes, tests were performed to see if the data met the assumptions for each regression analysis. All assumptions were met.

Inferential Statistics

Hypothesis 1

Hypothesis 1 predicted that trait mindfulness would share a positive relationship with generalized trust and a negative relationship with communicative suspicion. In order to examine that hypothesis, I first conducted a multiple regression analysis with trait mindfulness (MAAS and FFMQ-15 scores) as the predictors and generalized trust as the criterion. MAAS and FFMQ-15 scores did not statistically significantly predict

Generalized Trust, $F(2, 175) = 1.86$, $p = .16$. A second regression analysis was conducted with trait mindfulness (MAAS and FFMQ-15 scores) as the predictors and generalized communicative suspicion (GCS scores) as the criterion. MAAS and FFMQ-15 scores did not statistically significantly predict GCS scores, $F(2, 175) = 1.34$, $p = .27$.

Hypothesis 2

Hypothesis 2 predicted that generalized trust and generalized communicative suspicion would display a negative correlation with one another. In order to examine Hypothesis 2, a Pearson's correlation was used to analyze this relationship. Generalized Trust scores and GCS scores were moderately negatively correlated, ($r(178) = -.609$, $p < .001$). This was consistent with my prediction that individuals high in trust would display less suspicion towards communication.

Hypothesis 3

My third hypothesis predicted that trait mindfulness (MAAS and FFMQ-15 scores) and generalized trust scores would share a positive relationship with truth bias. A multiple regression analysis was carried out with MAAS, FFMQ-15 mindfulness scores, and Generalized Trust scores as my predictors and truth bias as my criterion. Truth bias was calculated by measuring the proportion of total items that were judged as truthful. Hypothesis 3 predicted that trait mindfulness scores and generalized trust scores would positively correlate with participants' truth biased scores. The results of the regression indicated that the model explained 11.4% of the variance and that the model was a significant predictor of truth bias, $F(3, 174) = 7.04$, $p = .001$. While Generalized Trust scores ($\beta = .326$, $p < .001$) contributed significantly to the model, MAAS scores ($\beta =$

.116, p = .149) and FFMQ-15 scores (β = -.077, p = .342) did not (see Table 1 for correlations). These results partially support my third hypothesis.

Hypothesis 4

My fourth hypothesis predicted that communicative suspicion would be negatively correlated with truth bias. With GCS scores as my predictor variable and truth bias as my criterion variable, the results of the regression indicated that the model explained 11.2% of the variance and that the model was a significant predictor of truth bias, $F(1, 176) = 22.1$, p = .001. GCS scores (β = -.334, $p < .001$) did significantly contribute to the model, thus supporting my fourth hypothesis.

Hypothesis 5 and 6

For my fifth hypothesis, I predicted that trait mindfulness (MAAS and FFMQ-15 scores) and Generalized Trust scores would positively associate with participants' ability to accurately discern between truth and lies. A multiple regression was conducted with MAAS, FFMQ-15, and General Trust scores as my predictors and veracity judgment accuracy as my criterion. The results of the regression indicated that the model explained 2% of the variance and that the model was a not significant predictor of veracity judgment accuracy, $F(3, 174) = 1.18$, p = .320. For coefficients, see Table 1.

Lastly, my sixth hypothesis predicted that GCS scores would negatively associate with veracity judgment accuracy scores. Hypothesis 6 was tested using a simple linear regression. The results of the regression indicated that GCS was not a significant predictor of veracity judgment accuracy $F(1, 176) = .08$, p = .78. For coefficients, see Table 1. I did not find evidence to support Hypotheses 5 and 6 that trait mindfulness,

generalized trust, and generalized communicative suspicion are significantly correlated with veracity judgment accuracy (see Table 2 for additional correlations). For Hypotheses 5 and 6, veracity judgment accuracy was computed as the proportion of accurate judgments when differentiating between the total set of 10 truths and 10 lies.

Table 1

Regression Coefficients of Dispositional Factors on Veracity Judgment Accuracy

Variable	*B*	*SE*	β	*t*	*p*
		Hypothesis 5			
Constant	.732	.065		11.27	.00
MAAS	-.002	.010	-.02	-.24	.81
FFMQ-15	-.030	.020	-.13	-1.55	.12
General trust	.006	.013	.03	.45	.65
		Hypothesis 6			
Constant	.637	.043		14.95	.00
GCS	.003	.010	.02	.28	.78

Note. In Hypothesis 5, MAAS, FFMQ-15, and General trust scores were entered to predict veracity judgment accuracy. In Hypothesis 6, only GCS scores were entered to predict veracity judgment accuracy.

Table 2

Correlations for Study Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. MAAS	-													
2. FFMQ-15	.45**	-												
3. General trust	.04	.14	-											
4. GCS	-.12	-.08	-.61**	-										
5. Total accuracy	-.08	-.14	.02	.02	-									
6. Truth bias	.10	.02	.32**	-.33**	-.22**	-								
7. Lie bias	-.09	-.02	-.32**	.32**	.23**	-.99**	-							
8. Truth accuracy	.02	-.08	.30**	-.28**	.50**	.74**	-.73**	-						
9. Lie accuracy	-.11	-.10	-.22**	.24**	.72**	-.83**	.84**	-.24**	-					
10. FFMQ-15 Observing	.01	.463**	-.00	.11	.06	-.00	.01	.04	.04	-				
11. FFMQ-15 Describing	.35**	.70**	.21**	-.12	-.20*	.02	-.01	-.12	-.12	-.01	-			
12. FFMQ-15 Active Awareness	.61**	.55**	-.02	-.05	-.05	-.05	.06	-.08	.01	-.07	.49**	-		
13. FFMQ-15 Non-judgment	.41**	.53**	.22**	-.20**	-.13	.11	-.11	.01	-.15*	-.16*	.59**	.43**	-	
14. FFMQ-15 Non-reactive	-.09	.36**	-.00	.02	-.05	.03	-.03	-.01	-.05	.32**	-.08	-.24**	-.20**	-

Note. ** $p < .001$

* $p < .05$

Exploratory Analyses

From the data, additional variables of lie bias, truth accuracy, and lie accuracy were computed. Lie bias was calculated as the proportion of lies selected from the total 20 video clips. Truth accuracy was calculated as the proportion of truths correctly selected from the total truthful video clips. Lastly, lie accuracy was calculated as the proportion of lies correctly selected from the total dishonest video clips. Additionally, the FFMQ-15 survey measures five different aspects of trait mindfulness: Individuals' levels of observing, describing, acting with awareness, non-judging inner experience, and non-reactivity to inner experience. Mean totals were calculated for each of these five aspects. The means and standard deviations for these variables are listed in Table 3.

Table 3

Descriptive Statistics for Exploratory Variables

Variable	*M*	*SD*
1. Lie bias	.40	.13
2. Truth accuracy	.75	.15
3. Lie accuracy	.55	.19
4. FFMQ-15 observing	3.23	.82
5. FFMQ-15 describing	2.93	.80
6. FFMQ-15 active awareness	3.26	.82
7. FFMQ-15 non-judgment	3.21	.98
8. FFMQ-15 non-reactive	3.0	.83

Note. The means for lie bias, truth accuracy, and lie accuracy should be read as percentages.

Exploratory Pearson correlations were conducted on trait mindfulness, generalized trust, generalized communicative suspicion, veracity judgment accuracy,

truth bias, and the newly computed variables. Table 2 shows that there were significant correlations between multiple variables. The most notable correlations being found among the variables of General Trust, GCS, and Truth Bias, Lie Bias, Truth Accuracy, Lie Accuracy, Total Accuracy, and the FFMQ-15 Describing variable. The results of the correlation revealed that General Trust correlated positively with Truth Accuracy, and the FFMQ-15 Describing and Non-Judgment variables, and negatively correlated with Lie Bias and Lie Accuracy. Furthermore, after the FFMQ-15 was broken down into its five subscales, the results of the correlations showed that there was a weak, negative correlation with veracity judgment accuracy (see Table 2). That is, participants who were better at describing their feelings showed were less accurate than participants who were lower at describing their feelings in identifying which of the 20 video clips were truth and which were lies.

Exploratory multiple regression analyses were also conducted separately using Lie Bias, Truth Accuracy, and Lie Accuracy as dependent variables and the dispositional factors as independent variables. Two significant findings are presented. The first multiple regression conducted was to predict lie bias from the dispositional factors. The results of the regression indicated that the model explained 13.6% of the variance and that the model was a significant predictor of lie bias, $F(4, 173) = 6.8$, $p = .001$. While Generalized Trust scores ($\beta = -.215$, $p < .05$) and GCS scores ($\beta = .186$, $p < .05$) contributed significantly to the model, MAAS scores ($\beta = -.086$, $p = .286$) and FFMQ-15 scores ($\beta = .070$, $p = .387$) did not.

The second multiple regression conducted was to predict truth accuracy from the dispositional factors. The results of the regression indicated that the model explained 12.2% of the variance and that the model was a significant predictor of truth accuracy, $F(4, 173) = 6.03$, $p = .001$. While Generalized Trust scores ($\beta = .235$, $p < .05$) and FFMQ-15 scores ($\beta = -.158$, $p = .05$) contributed significantly to the model, MAAS scores ($\beta = .070$, $p = .39$) and GCS scores ($\beta = -.136$, $p = .135$) did not.

CHAPTER V

DISCUSSION, LIMITATIONS, AND CONCLUSIONS

This study evaluated the relationships between the dispositional factors of trait mindfulness, general trust, generalized communicative suspicion and their effects on veracity judgment accuracy and truth bias. The six hypotheses examined whether these dispositional factors shared any relationship; whether the dispositional factors influenced the accuracy of veracity judgments; and whether the dispositional factors influenced the degree individuals are truth biased.

Failing to support the prediction for Hypothesis 1, trait mindfulness did not share a positive relationship with generalized trust and a negative relationship with generalized communicative suspicion. However, upon further analysis of the five aspects measured by the FFMQ-15 survey, mindfulness items of describing (e.g., "I'm good at finding words to describe my feelings;" Baer et al., 2008) and non-judgment (e.g., "I tell myself I shouldn't be feeling the way I'm feeling;" Baer et al., 2008) were found to share a weak, positive relationship with generalized trust, and the non-judgment item shared a weak, negative relationship with communicative suspicion. In other words, participants who reported being less judgmental and better at describing their experiences had of their feelings reported more trust in others; whereas participants who reported more judgment and self-doubt of their feelings were more suspicious of the communication of others. The reasoning behind this could be the result of the social connectedness aspect of mindfulness (Brown et al., 2007). Individuals who are more confident in their feelings

and embrace non-judgment of themselves could be more open to trust and connect to others because otherwise that judgment for their thoughts could cause them to be weary and suspicious of others. Supporting the prediction of Hypothesis 2, generalized trust and communicative suspicion shared a moderate negative relationship. This result is consistent with previous literature that the propensity to trust and be suspicious of others shares a negative association (Costa et al., 1991). Individuals who have a higher propensity to trust others have a lower degree to believe the communication of others is suspicious and vice versa.

Further, partial support of Hypothesis 3 and full support for Hypothesis 4 was found. Trait mindfulness scores from both the MAAS and FFMQ-15 scales did not influence truth bias. However, generalized trust shared a significant positive relationship with truth bias and GCS shared a significant negative relationship with truth bias. Contrary to results found in Carter and Weber's (2010), higher trusters in the current study showed an increased inclination to be truth biased and a greater ability to correctly identify truthful individuals. These different results could be the result of the increased number of videos the participants needed to judge. The more videos needing to be judged could have caused the high trusting individuals to be prone to a truth-default state. Consistent with McCornack and Levine's (1990) data on the negative relationship between communicative suspicion and truth bias, the current study found that individuals with higher suspicion towards communication had decreased truth bias and increased lie bias.

Finally, no support was found for the predictions made in Hypotheses 5 and 6. None of the dispositional variables used in the study were found to influence veracity judgment accuracy. This is not particularly surprising given that previous research on individual differences in lie detection have found that individual differences seem to have only a miniscule effect on accurately discerning truths from lies (Bond & DePaulo, 2006). Interestingly, further exploratory analysis the FFMQ-15 describing variable showed a weak, negative correlation with veracity judgment accuracy. Specifically, individuals who reported being better at being able to describe their feelings displayed decreased veracity judgment accuracy. Baer et al. (2006) explain that the describing aspect of the FFMQ-15 illustrates an individual's ability to describe their experiences. A speculation as to why these individuals may have this negative relationship could be the result of false beliefs regarding lying behavior. If these individuals hold false beliefs on what constitutes lying behavior that could blur their judgment with their new experiences.

Limitations and Future Directions

There are some noteworthy limitations of the study. The most obvious is the generalizability of the results to a wider population. Specifically, data was collected from mostly young, female undergraduate psychology students from a Southern university. Thus, the responses from these participants may not be representative of a population that is more diverse in age groups, gender, demographic area, and socio-economic background. It is recommended that future studies increase representativeness of their sample to improve generalizability of the results to the broader population. Expanding to

a broader population may reveal gender and age-related differences when it comes to levels of trait mindfulness, trust, and communication as well as how gender and age may influence truth bias and veracity judgment accuracy.

Another limitation was the number of videos used in the study. While the videos were short (roughly 20 seconds), the videos needed to be watched back-to-back. This could have caused fatigue, resulting in a lack of interest in or attention to accurately judge the videos.

A third limitation may rest with conceptualization and the use of two mindfulness measures in this study. This study employed both a unidimensional (MAAS) and multidimensional (FFMQ-15) operationalization of dispositional mindfulness. The purpose behind using two different operationalized measures of mindfulness was to capture the different conceptualizations for the construct of mindfulness. However, for the present study, the MAAS and FFMQ-15 scores correlated only moderately with each with another ($r = .45$, $p < .001$), which could indicate that a reliably precise conceptualization of or measure of mindfulness may still be elusive. Additionally, the reverse scaling of the scales could have caused unwarranted confusion.

Lastly, a limitation could be the diversity and demeanor of the individuals presented in the video clips. The video clips contained male and female individuals of various ethnic backgrounds. The individuals judging the videos could have been influenced by personal biases. For example, Lloyd et al.'s (2017) study on race-based biases found that truth bias was influenced by participants' ethnic background. White

participants displayed greater truth bias toward Black individuals to correct any prejudices they may have. While the current study did not collect data on participant ethnicity, it is possible that this factor could have influenced the results based on the diversity of people in the videos used. Additionally, research has shown that demeanor of a person can influence whether someone perceives them to be honest or not (Van Swol et al., 2013). Some of the individuals in the videos may have demeanors that displayed qualities that people perceive has honest or dishonest. This could have indirectly impacted judgments during this study. It would be desirable for future studies to take those factors into consideration when analyzing their data.

Conclusion

At present, there has been little research conducted on the role that trait mindfulness, generalized trust, and communicative suspicion have on veracity judgment accuracy and bias. This study aimed to examine any relationships between those dispositional factors and any influences they may have on veracity judgment accuracy and bias. Though the relationships between these dispositional factors, veracity judgment accuracy, and truth bias were not significant across all hypotheses, significant relationships were found. Generalized trust and generalized suspicion maintain important factors to consider in deception detection research due to their influence on truth bias. Overall, the results of the study did not show trait mindfulness to be an active influencer of veracity judgments and truth bias; however, the study provides preliminary data to discuss the potential influence of specific components of mindfulness on veracity

judgment accuracy. Further, more refined research is needed to examine if mindfulness is a factor to consider in deception research. Future research can examine if there are any similarities between trait mindfulness levels of individuals who are considered "truth-wizards" (Ekman & O'Sullivan, 1991). Since truth wizards are exceptionally skilled at spotting deception, researchers can see if higher or lower levels trait mindfulness is a commonality between these individuals. If such tie were to exist, further examination can be conducted on trait mindfulness to see if it aids in their deception detection abilities. Additionally, further research can experiment with the incorporation of mindfulness training before veracity judgments are made. If mindfulness-based interventions are being offered as a means of increasing deception detection and reducing bias in legal and criminal settings (Freshman et al., 2016), a more comprehensive examination of the relationship between those variables is warranted.

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APPENDIX A

The Mindful Attention Awareness Scale (MAAS)

(Brown & Ryan, 2003)

Instructions: Below is a collection of statements about your everyday experience. Using the 1-6 scale, please indicate how frequently or infrequently you currently have each experience. Please answer according to what really reflects your experience rather than what you think your experience should be. Please treat each item separately from every other item.

1	2	3	4	5	6
Almost Always	*Very Frequently*	*Somewhat Frequently*	*Somewhat Infrequently*	*Very Infrequently*	*Almost Never*

1. I could be experiencing some emotion and not be conscious of it until sometime later.
2. I break or spill things because of carelessness, not paying attention, or thinking of something else.
3. I find it difficult to stay focus on what's happening in the present.
4. I tend to walk quickly to get where I'm going without paying attention to what I experience along the way.
5. I tend to not notice feelings of physical tension or discomfort until they really grab my attention.
6. I forget a person's name almost as soon as I've been told it for the first time.
7. It seems I am "running on automatic," without much awareness of what I'm doing.
8. I rush through activities without being really attentive to them.
9. I get so focused on the goal I want to achieve that I lose touch with what I'm doing right now to get there.
10. I do jobs or tasks automatically, without being aware of what I'm doing.

11. I find myself listening to someone with one ear, doing something else at the same time.
12. I drive places on ‘automatic pilot’ and then wonder why I went there.
13. I find myself preoccupied with the future or the past.
14. I find myself doing things without paying attention.
15. I snack without being aware that I’m eating.

APPENDIX B

FFMQ-15: 15-item Five-Facet Mindfulness Questionnaire

(Baer et al., 2008)

Instructions: Please use 1 (never or rarely true) to 5 (very often or always true) to indicate how true the below statements are to you. Pick the number for each statement which represents your own opinion of what is generally true for you. For example, if you think that a statement is often true of you, chose '4' and if you think a statement is sometimes true of you, choose '3'.

1 *Never or Very Rarely True*	2 *Rarely True*	3 *Sometimes True*		4 *Often True*	5 *Very Often or Always True*

1. When I take a shower or a bath, I stay alert to the sensations of water on my body.
2. I'm good at finding words to describe my feelings.
3. I don't pay attention to what I'm doing because I'm daydreaming, worrying, or otherwise distracted. (R)
4. I believe some of my thoughts are abnormal or bad and I shouldn't think that way. (R)
5. When I have distressing thoughts or images, I "step back" and am aware of the thought or image without getting taken over by it.
6. I notice how foods and drinks affect my thoughts, bodily sensations, and emotions.
7. I have trouble thinking of the right words to express how I feel about things. (R)
8. I do jobs or tasks automatically without being aware of what I'm doing. (R)
9. I think some of my emotions are bad or inappropriate and I shouldn't feel them. (R)
10. When I have distressing thoughts or images, I am able to notice them without reacting.

11. I pay attention to sensations, such as the wind in my hair or sun on my face.

12. Even when I'm feeling terribly upset, I can find a way to put it into words.

13. I find myself doing things without paying attention. (R)

14. I tell myself I shouldn't be feeling the way I'm feeling. (R)

15. When I have distressing thoughts or images, I just notice them and let them go.

APPENDIX C

General Trust Scale

(Yamagishi & Yamagishi, 1994)

Instructions: Using the following scale, please indicate how much you agree or disagree with the following statements.

1	2	3	4	5
Strongly disagree	*Disagree*	*Neutral*	*Agree*	*Strongly Agree*

1. Most people are basically honest.
2. Most people are trustworthy.
3. Most people are basically good and kind.
4. Most people are trustful of others.
5. I am trustful.
6. Most people will respond in kind when they are trusted by others.

APPENDIX D

Generalized Communicative Suspicion Scale

(Levine & McCornack, 1991)

Instructions: Reach each of the statements carefully and pick the degree to which you believe describes you.

1 *Strongly Disagree*	2 *Disagree*	3 *Somewhat Disagree*	4 *Neutral*	5 *Somewhat Agree*	6 *Agree*	7 *Strongly Agree*

1. Everyone lies, the person who says that they don't is the biggest liar of all.
2. I often feel as if people aren't being completely truthful with me.
3. Most people only tell you what they think you want to hear.
4. When I am in a conversation with someone, I frequently wonder whether they are really telling me the truth.
5. People rarely tell you what they're really thinking.
6. The best policy is to trust people until proven wrong. (R)
7. Dishonesty is human nature.
8. When I first meet someone, I assume that they are probably lying to me about some things.
9. Most people are basically honest. (R)
10. Anyone who completely trust someone else is asking for trouble.
11. When I ask a stranger for directions, I frequently wonder whether they are being truthful.
12. When I am talking to others, I tend to believe what they say. (R)
13. People seldom lie to me. (R)
14. Most people follow the saying "honesty is the best policy". (R)

APPENDIX E

NSF Deception Video Clip

(Levine, 2007)


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APPENDIX F

IRB Approval Letter

Texas Woman's University
Institutional Review Board (IRB)
irb@twu.edu
https://www.twu.edu/institutional-review-board-irb/

November 23, 2020

Kelsey Barnicle
Psychology and Philosophy

Re: Exempt - IRB-FY2021-51 The Role of Dispositional Factors in Veracity Judgment Accuracy and Bias

Dear Kelsey Barnicle,

The above referenced study has been reviewed by the TWU IRB - Denton operating under FWA00000178 and was determined to be exempt on November 23, 2020.

Note that any modifications to this study must be submitted for IRB review prior to their implementation, including the submission of any agency approval letters, changes in research personnel, and any changes in study procedures or instruments. Additionally, the IRB must be notified immediately of any adverse events or unanticipated problems. All modification requests, incident reports, and requests to close the file must be submitted through Cayuse.

On November 22, 2021, this approval will expire and the study must be renewed or closed. A reminder will be sent 45 days prior to this date.

If you have any questions or need additional information, please contact the IRB analyst indicated on your application in Cayuse or refer to the IRB website at http://www.twu.edu/institutional-review-board-irb/.

Sincerely,
TWU IRB - Denton