

ANXIETY, IN-GROUP IDENTIFICATION, AND  
DEPERSONALIZED TRUST

by

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## ABSTRACT

### ANXIETY, IN-GROUP IDENTIFICATION, AND DEPERSONALIZED TRUST

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In a previous study, we (Kenworthy & Jones, 2008) examined the effect of induced anxiety on depersonalized in-group trust within low and high importance groups. We found that the anxiety induction increased depersonalized in-group trust within high importance groups, but did not do so within low importance groups. Further, self-reported anxiety scores mediated the relationship between the emotion induction and depersonalized trust in high importance groups. Taking a social identity theory (Tajfel & Turner, 1986) approach, I replicated Kenworthy and Jones (2008) with a different anxiety induction, and with the addition of risk-aversion as potentially mediating the relationship between anxiety and trust. Anxiety was manipulated using a film clip that was found, in a pilot study, to elicit such a state. I then measured risk tendencies and depersonalized in-group trust. Risk was not correlated with depersonalized trust. Therefore, I found no meditational results with regard to risk. I found that individuals, who highly identified with their ethnic in-group, while in an anxious state, displayed more depersonalized trust than those who did not identify with their in-group. Implications of this experiment may help to understand individuals' willingness to trust others when experiencing anxiety.

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## CHAPTER 1

### INTRODUCTION

In any culture, the willingness of one human being to trust another human being must be present in order for meaningful social interactions to take place. For instance, trust must be present before two people can become friends, lovers, or even acquaintances. In everyday situations we trust that others will meet our social expectations in order to function properly in daily life (Rotter, 1967). For instance, we trust our government to provide us with proper care and safety; we rely on our doctors to give us sound health advice; we depend on our financial advisors to properly manage our financial portfolio; we trust our education systems to provide the proper information to our students (Tschannen-Moran & Hoy, 2000). According to Jones and George (1998), trust is a multidimensional construct – including moral, cognitive, and emotional elements – that, when adopted, can lead to a set of behavioral expectations among individuals. To initiate trust, we depend on others to act in accordance with our expectations to further facilitate social interactions (Tschannen-Moran & Hoy, 2000). Trust can be placed in individuals, stemming from either their shared experiences or their reputation. Alternatively, group membership can serve as a heuristic cue to the trustworthiness of others. This research will examine some predictors of such group-based trust.

#### *Different types of trust*

Previous research has attempted to identify and operationalize the concept of trust. One such attempt is that of Rotter (1967), who defined interpersonal trust “as an expectancy held by an individual or group that the word, promise, verbal, or written statement of another individual or group can be relied upon” (p. 651). Rousseau, Sitkin, Burt, and Cramerer (1998) define trust as the willingness to accept vulnerability based upon positive expectations about another’s behavior. Butler (1991) states that, in general, trust can exist between individuals, groups, or institutions, and can symbolize either a universal belief in humanity or a situation-



specific or trustee-specific attitude. Driscoll (1978) argued that the notion of organizational trust can be viewed as a two-factor variable that includes a broad-based stable factor (i.e., personality) and a situationally-influenced factor. Further investigation of trust was conducted by Scott (1980), who explored three models of interpersonal trust: attitudinal, situational, and a combined model. Scott's results again revealed that interpersonal trust can be conceptualized as a two-factor variable, one being a broad-based stable factor and the other a situationally influenced factor. However, Scott found that situational variables accounted for a greater amount of variance in interpersonal trust scores than did the broad-based personality factor. Hoell (2004) has conceptualized generalized trust as a type of trust that is not directed towards a specific person or group, or to the characteristics of trustworthiness that a specific group may possess or obtain. Generalized trust, according to Hoell (2004), is a person's general attitude towards the motives of others and the confidence one places in people acting on said motives. This idea of generalized trust relates very closely to *depersonalized* trust, which occurs when an individual extends trust to an unknown member of their in-group based solely upon membership (Brewer, 1981, 1999; Hogg, 2004, 2007).

#### *Depersonalized Trust*

Despite the importance of examining trust in social networks and collective, dynamic contexts, most research on trust has concerned dyadic, interpersonal-level trust. Thus, much remains to be examined and understood with respect to the antecedents and consequences of depersonalized trust. From a social identity theory perspective (Tajfel & Turner, 1986), one might reasonably predict that depersonalized trust will vary as a function of the importance that individuals place on their group membership. This idea was confirmed in Yuki, Maddux, Brewer, and Takemura's (2005) finding that in-group identification (with participants' university affiliation) correlated reliably with depersonalized trust. Their study (Yuki et al., 2005) investigated trust and reciprocity in social exchange and examined depersonalized trust within and across American and Japanese cultures. Yuki et al. found that American students have a tendency to trust unspecified in-group members considerably more than they do unspecified out-group

members, especially as a function of in-group identification. Similarly, according to self-categorization theory (Turner, Hogg, Oakes, Reicher, Wetherell, 1987), situations that activate the self-concept at the collective rather than individual level result in depersonalized perceptions of, and responses to, other in-group members. Depersonalized trust can then occur when the trust is extended to an individual based on group membership rather than on personal history (Brewer, 1981, 1999; Hogg, 2004, 2007).

Social group membership can have other important effects on an individual's cognition, affect, and social behavior as well (Smith, Murphy, & Coats, 1999). In general, people strive to feel good about themselves and to benefit from a moderate to high self-esteem. Typically, an individual will attempt to surround him/herself with others who provide them with positive reinforcement and a sense of belonging in the hopes of improving their self-esteem. Therefore, high importance is placed upon group membership with the expected outcome being propagation or enhancement of self-esteem.

In a previous experiment, Kenworthy and Jones (2008) studied the effects of group importance and anxiety on depersonalized in-group trust. We chose to examine the effects of anxiety on trust because trust is a complex judgment that entails risk and uncertainty, and because anxiety is characterized by a high degree of uncertainty (C. A. Smith & Ellsworth, 1985). Previous research has shown that interpersonal trust can be used as a social regulation tool, for managing uncertainty (Sorrentino, Holmes, Hanna, & Sharp, 1995). In other words, by extending trust to close others, relationship uncertainty can be reduced. Yet, to our knowledge, the causal effects of uncertainty or anxiety on trust have not been examined. The present research seeks to understand the conditions under which anxiety will predict depersonalized in-group trust.

### *Uncertainty and Trust*

In a recent article, Hogg (2007) proposed uncertainty-identity theory, which attempts to clarify motivations for why people identify with their in-groups, when they are more likely to identify with their in-groups, and how strongly people identify with their in-groups. This theory posits that one of the primary motivations for people to identify with their in-groups stems from uncertainty in their social world. A major premise of uncertainty-identity theory is that individuals who feel uncertain about their attitudes, situations, or feelings manifest a sense of discomfort and are motivated to reduce this discomfort by eliminating ambiguity. According to this theory, in-group identification is a primary uncertainty-reduction mechanism that individuals use to reduce the discomfort that arises when a person is experiencing ambiguity. In many experiments Hogg (2007) has repeatedly obtained similar findings, namely, that those individuals who are in highly uncertain situations (versus low uncertainty) are more likely to identify with their in-group. Being surrounded by other in-group members provides individuals with an opportunity to define themselves as prototypical group members. Likewise, once the process of living up to in-group standards and norms has begun, individuals can start to see themselves as prototypical group members. This perception then initiates the depersonalization process (Hogg, 2004). Once depersonalization occurs, individuals begin to perceive their in-group members as stereotypical group members (not as unique individuals), which permits an expectation of how to think, feel, and behave. Individuals also begin to categorize themselves at the group level, which involves attributing all in-group aspects (e.g., group norms, standards, attributes, etc.) to their own self-concept. By way of reducing self-related uncertainty, group identification helps strengthen an individual's self-concept, which further shapes their future courses of action. Individuals perceive their in-group as a safe social choice, and identifying with their in-group provides certainty.

Related to the theoretical prediction of uncertainty-identity theory, other work has shown that anxiety results in conservative or safe behavioral choices. For example, Lerner and Keltner (2001) demonstrated that fearful, as compared to angry, individuals have pessimistic risk

perceptions and make choices that indicate risk-aversion. Raghunathan and Pham (1999) examined differences between sad and anxious individuals, and their results also suggested that anxiety tends to decrease risk-taking, as compared to sadness. These findings were interpreted in light of the affect-as-information model (Clore et al., 2001), whereby the feeling states of anxiety and sadness predispose individuals to prefer safe or rewarding outcomes, respectively. Anxiety should result in conservative social choices, or in preferences for others who are considered safe, comforting, or trustworthy.

*Inspiration for current study*

Kenworthy and Jones (2008) manipulated anxiety via an immersive scenario procedure, in which participants imagined themselves in one of two situations. In the anxiety condition, the participants imagined themselves living through a major hurricane (such as hurricane Katrina) which devastated their town. In the control condition, the participants imagined themselves experiencing the central library after a slight increase in funding for computers, furniture, and the coffee shop. These scenarios produced their intended effects; participants in the anxiety condition felt reliably more anxious (and angry and sad) than did those in the control condition. As part of an (ostensibly) unrelated study, participants then indicated the degree to which they would extend depersonalized trust to typical members of either high or low importance social groups (between-subjects) to which they belonged. Depersonalized trust consisted of 10 items measuring trust in a typical in-group member with respect to a range of situations. These items, directly adapted from Dunn and Schweitzer's (2005; from Johnson-George & Swap, 1982) trust inventory, are listed in Appendix A. In addition to these 10 items, three items measured depersonalized in-group trust directly. These items were: "To me, all of the group members are the same when it comes to being trustworthy", "If I find out that a person belongs to this group, I trust her or him automatically", and "I trust all members of this group." The findings of Kenworthy and Jones (2008) were largely in line with predictions. Participants who highly identified with their in-group were more likely to extend trust to an unknown member of their in-group. Specifically, in high importance groups, depersonalized in-group trust was greater when

participants were anxious than when not anxious. Furthermore, the effects remained even after the variance due to sadness and anger was partialled out.

The present study seeks to replicate and extend the findings of Kenworthy and Jones (2008), while making some modifications to the methodology. First, instead of a scenario methodology, anxiety will be manipulated using a clip from a thriller film. The purpose of this methodological change is to induce anxiety in a purer way, as compared with the multiple emotions that were simultaneously elicited by the scenario in Kenworthy and Jones (2008). A pilot study was conducted (discussed below) to determine which of three movie clips would induce anxiety, with a minimal amount of unrelated concomitant negative affect (e.g., anger and sadness). This pilot study further provided a film that would induce little to no affect, and which was ultimately used as a control condition. Second, instead of asking participants to identify their least or most important social group out of several they listed, the groups were limited and participants were asked to indicate either their ethnic group or religious group via random assignment.

## CHAPTER 2

### PILOT STUDY

#### *Participants and Design*

Thirty-three undergraduate students (23 females, 10 males), who were currently enrolled in psychology courses at the University of Texas at Arlington, participated in exchange for partial course credit. Participants, in groups of two to six individuals, were randomly assigned to watch one of three 10-minute film clips. Eleven participants were assigned to each film condition.

#### *Materials and Procedure*

*Film clips.* The film clip from “The Silence of the Lambs” portrays an FBI agent (Jodie Foster) nervously searching through different rooms within a male suspect’s home. She enters the suspect’s basement where the lights are turned off unexpectedly. Viewers then see her from the perspective of the suspect, who is watching her through night-vision equipment. The suspect then cocks his firearm, aims it at her as if he were going to shoot the FBI agent (Jodie Foster). Once the agent hears this, she prepares to fire her weapon in the dark toward where the noise apparently comes from. At this point, the experimenter ends the film clip.

The film clip from “The Shining” shows an apparently psychotic and deranged man (Jack Nicholson) running through a snow covered garden labyrinth chasing after his son with an axe. The son finally escapes the labyrinth and finds his mother (Shelley Duvall). At this point, the experimenter ends the film clip.

In “All of the Presidents Men”, the viewer sees a group of men standing around discussing the Watergate incident for several minutes. A man (Robert Redford) gets on the telephone and questions people about Watergate. The experimenter ends this film clip at this point. These three films have been previously used in the emotion research literature to elicit fear/anxiety (“The Silence of the Lambs” and “The Shining”; hereafter “Lambs” and “Shining”,

respectively) and neutral (“All of the Presidents Men”; hereafter “Presidents”) emotions (see Gross & Levenson, 1995; Hewig et al., 2005).

*Emotion Assessment.* Once the experimenter ended the film clip, she gave participants an emotion-check questionnaire. The questionnaires were anonymous, and could not be traced to individual respondents. Participants were instructed to evaluate their present emotion states and indicate the degree to which they felt each of a list of emotion adjectives, rated on 7-point scales (1 = *not at all*; 7 = *very much*). The experimenter informed participants that the researchers were interested in how they honestly felt at the moment, and asked them to please not report an emotion which they truly did not feel. The experimenter emphasized that there were no right or wrong emotions to feel as a result of the film clip, and that everyone would have slightly different reactions. The positive emotion adjectives were *warm, happy, pleasant, proud, cheerful, tender, and compassionate*. The negative emotion items were *nervous, anxious, fearful, irritated, unhappy, worried, disgusted, furious, uneasy, distressed, upset, gloomy, dejected, troubled, depressed, alarmed, disturbed, sad, and angry*. After the emotion check items, participants indicated their age and gender. Finally, the participants were thanked for their time and debriefed.

### *Results and Discussion*

Four of the positive emotion items – *happy, pleasant, proud, cheerful* – were combined to form a reliable index (Cronbach’s  $\alpha = .91$ ) of positive emotion. The items *warm, tender, and compassionate* were eliminated from the index because of low item-total correlations ( $< .5$ ). Five anxious emotion items – *nervous, anxious, fearful, worried, and uneasy* – were combined to form a reliable index ( $\alpha = .95$ ) of anxious emotion. A reliable index ( $\alpha = .89$ ) of angry emotion was created using the items *irritated, disgusted, furious, distressed, alarmed, disturbed, and angry*. A reliable index ( $\alpha = .91$ ) of sad index was created using the items *dejected, depressed, unhappy, and sad*.

A preliminary analysis revealed no effects of gender on emotion ratings, and thus this potential factor is collapsed in the following results. Table 1 shows the means and standard

deviations for each emotion index, as a function of film condition. One-way Analysis of Variance (ANOVA), performed on each emotion index, revealed only overall significant differences for anxiety,  $F(2, 30) = 4.24, p = .024$ , and sadness,  $F(2, 30) = 3.73, p = .036$ . For anxiety, post-hoc tests indicated a reliable difference between “Lambs” and “Presidents” conditions, and a marginally significant difference between “Shining” and “Presidents” conditions. There were no differences between “Lambs” and “Shining” conditions for the anxiety emotion index. For sadness, post-hoc tests indicate that the “Shining” condition reliably exceeded the “Presidents” condition, and marginally exceeded the “Lambs” condition. There were also no differences between “Lambs” and “Presidents” for the sadness emotion index (see Table 1). Although happiness was greatest in the “Presidents” condition, the difference was not reliable. Anger was greatest in the “Shining” condition, but again this difference was not reliable.

Because of the relatively high degree of rated anger and sadness in the “Shining” condition, it was deemed inappropriate for use as an induction of anxiety. “Lambs” had the greatest degree of anxiety, with a relative absence of either sadness or anger, indicating that among these film conditions, it had the best potential for use as a pure induction of anxiety. “Presidents” was deemed appropriate for use as a neutral emotion induction because of its relative lack of any emotion elicitation.

Table 2.1 Mean Emotion Ratings as a Function of Film Condition

	Anxiety	Sadness	Anger	Positivity
Lambs	3.85 (2.16)	1.54 (0.62)	2.54 (1.15)	1.89 (1.18)
Shining	3.71 (2.10)	2.45 (1.45)	3.12 (1.91)	2.02 (1.77)
Presidents	1.85 (0.76)	1.42 (0.58)	2.45 (1.74)	3.05(1.30)



## CHAPTER 3

### MAIN EXPERIMENT

#### *Overview and Hypotheses*

According to random assignment, participants were asked to report their ethnic or religious group affiliation (between-subjects), and how strongly they identified with that religious or ethnic group. Then, to produce an anxious emotional state, participants watched a film clip (either “Lambs” or “Presidents”) as an ostensibly unrelated study. They then filled out a risk assessment questionnaire, followed by a trust questionnaire relating to their religious or ethnic affiliation.

It was hypothesized that there would be a main effect of social identification such that in-group identification (with religion or ethnicity) would predict depersonalized trust toward fellow in-group members. It was further hypothesized that anxiety would moderate the link between in-group identification and depersonalized trust. Specifically, depersonalized trust would be greatest for those individuals who are highly anxious (versus non anxious) and who highly identify with their in-group. Finally, it was hypothesized that risk would play a meditational role between individuals’ anxiety levels and their willingness to trust other in-group members. It is expected that participants would be more risk-averse when in an anxious emotional state, and that risk-aversion should in turn predict greater levels of depersonalized trust. This prediction is based upon the idea that the cognitive process underlying anxiety is an estimator of risk (Lerner & Keltner, 2001).

## CHAPTER 4

### METHOD

#### *Participants and Design*

Two hundred and eight male and female undergraduates, enrolled in psychology courses at UTA, participated in this experiment for course credit. They were randomly assigned to one of four conditions in a 2 (Film Condition: “Presidents” or “Lambs”) X 2 (Social Group: ethnicity or religion) between-subjects design. Level of identification with the assigned group was measured at the beginning of the study, and was used as an additional (quasi-experimental) factor in the analytical design. Participants were tested alone, except for a few occasions ( $n = 4$ ) in which they were tested in pairs. There was one distant outlier in the religious sample and this data point was excluded.<sup>1</sup>

#### *Materials and Procedure*

Upon arrival to the laboratory, participants were told that they would be participating in two short, unrelated studies. They were informed that the main study was concerned with group memberships and perceptions of other group members. They were also told that because the main study was so short, an undergraduate researcher would be conducting a separate study dealing with film and memory for her honor’s thesis. In actuality, it was one experiment. Participants were led to believe that there were two experiments being conducted in order to eliminate any demand characteristics elicited from the film. After completing the consent form, but before any experimental manipulations took place, participants completed a general trust inventory, consisting of three items (described below) that were used as a baseline measure of their willingness to trust others.

Participants were then given a social identification measure and were asked to indicate either their religious group or their ethnic group. Next, the experimenter explained that she needed to compile some of the forms and that in the meantime the participant would follow the

undergraduate to begin her honor's thesis study. At this point the undergraduate research assistant accompanied the participant into another room and began the film clip. Prior to starting the film clip, the research assistant instructed the participant to pay close attention to the film, as there would be a memory test to follow.

After completion of the film clip, participants completed a brief emotion check and were then given the risk inventory. The participants were led to believe that the risk inventory was a "filler task" before receiving the memory questions regarding the film clip. Once the participants had finished the memory questions, the research assistant thanked them for participating and told them to wait there while they checked to see if the experimenter was finished "compiling the forms".

The experimenter then gave the participant a questionnaire which assessed trust toward fellow in-group members. On it, participants were explicitly instructed to recall the group membership (i.e., ethnicity or religion) that was assigned at the beginning of the experimental session. Once this was completed, the experimenter presented participants with another emotion check, which consisted of the same items as the first emotion check, but with the items in a different order. This second emotion check was given in order to examine whether decreases in emotion scores correlated with trust scores. Following this emotion check, participants were questioned for suspicion, debriefed, thanked, and excused.

### *Materials*

*General trust.* These three items are taken from Brehm and Rahn (1997; see also Hewstone, Cairns, Voci, Hamberger, & Niens, 2006), and will be used here as a covariate for the main analyses. The items are: "Do you think most people would try to take advantage of you if they got a chance, or would they try to be fair?", "Would you say that most of the time people try to be helpful, or that they are mostly just looking out for themselves?", and "Would you say that most people can be trusted or that you can't be too careful with them?"

*Social Identification.* In order to assess the participants' level of identification with their group (e.g., religious or ethnicity), I used nine items based on previous research (e.g., Brown,

Condor, Mathew, Wade, & Williams, 1986; Ellemers, Kortekaas, & Ouwerkerk, 1999; Jackson, 2002; Luhtanen & Crocker, 1992) in the social identity tradition. These items, assessed on 7-point scales, were: “I see myself as a member of this group”; “Being a member of this group is central to my sense of who I am”; “Overall, my group membership has very little to do with how I feel about myself” (reversed); “In general, belonging to this group is an important part of my self-image”; “I value my membership in this group”; “I feel proud to belong to this group”; “Being a member of this group is unimportant to my sense of what kind of person I am” (reversed); “I feel strong ties to this group”. These questions were modified to cater to their assigned group via random assignment (i.e., religious group or ethnic group). The “Inclusion of the Ingroup in the Self scale” (see Tropp & Wright, 2001) was also used in this study as part of the assessment of in-group identification (see Appendix B).

*Emotion Check.* Following the film, a 14-item emotion questionnaire was given in order to assess the participants’ emotion. These items were assessed on 7-point scales (1 = *not at all*; 7 = *very much*) and included the following emotions: *happy, anxious, cheerful, tense, depressed, nervous, irritated, angry, worried, sad, agitated, indifferent, pleasant, and furious.*

*Risk inventory.* A 12-item risk-attitude scale (Weber et al., 2002) was used to measure participants’ willingness to engage in several risky behaviors across five behavioral dimensions (ethical, financial, health/safety, recreational, and social domains; see Appendix C).

*Depersonalized trust.* Depersonalized in-group trust was assessed in this experiment. These items (see Appendix A) have been adapted from Dunn and Schweitzer (2005) and from Kenworthy and Jones (2008).

## CHAPTER 5

### RESULTS

The two experimental conditions (viz., religion and ethnicity) were significantly different with regard to their respective participants' willingness to trust other in-group members,  $F(1, 207) = 7.84, p < .001$ . Participants in the religion condition were more trusting toward their in-group ( $M = 4.37, SD = .84$ ) than were participants in the ethnicity condition ( $M = 4.00, SD = .92$ ). I also analyzed the three-way interaction by means of regression and found a significant three-way interaction between group type, anxiety level, and level of social identification,  $b = .023, p < .05$ . Therefore, in order to interpret this data with simplicity I analyzed the two groups separately. I used simultaneous multiple regressions to test the effects of both social identity and anxiety as predictors of depersonalized trust. I centered the continuous variables (i.e., subtracted the variable mean from each participant's value), social identity and anxiety, in order to create and test an interaction term without introducing multicollinearity to the model (Aiken & West, 1991).

#### *Religion*

*Level of social identification.* The nine social identification items and the Inclusion of In-group in the Self scale were reliably intercorrelated (Cronbach's  $\alpha = .89$ ). These items were thus combined into an index of social identification.

*Emotion Checks.* The four anxious items (*worried, anxious, tense, nervous*) were highly intercorrelated ( $\alpha = .91$ ), and thus averaged into an anxious emotion index. The four angry items (*irritated, angry, agitated, furious*) were highly intercorrelated ( $\alpha = .85$ ), and were averaged into an anger emotion index. The two sad items (*sad, depressed*) were highly intercorrelated ( $\alpha = .81$ ), and thus averaged. Finally, three positive items (*happy, cheerful, pleasant*) were highly intercorrelated ( $\alpha = .90$ ) and thus averaged into a positive emotion index.

In order to test the differences between film conditions, I used a multivariate analysis of variance (MANOVA) procedure, including all four emotion indices as dependent variables. Participants in the Lambs condition were significantly more anxious than were those in the Presidents condition,  $F(1, 105) = 56.23, p < .0001, \eta^2 = .17$ . Positivity was lower in the Lambs condition than in the Presidents condition,  $F(1, 105) = 12.17, p < .0001, \eta^2 = .11$ . Anger was higher in the Lambs condition than in the Presidents condition,  $F(1, 105) = 4.98, p < .05, \eta^2 = .04$ . Sadness did not differ between the Lambs condition and the Presidents condition,  $F(1, 105) = 1.15, p > .05, \eta^2 = .01$ . Anxiety had the highest score within the Lambs condition, whereas positivity had the highest score within the Presidents condition.

Table 5.1 Mean Emotion Ratings of Group Type and Film Condition

Religion				
	Anxiety	Sadness	Anger	Positivity
Lambs	3.47 (1.91)	2.04 (.83)	2.06 (1.35)	2.96 (1.7)
Presidents	2.04 (1.15)	1.89(.81)	1.57 (.98)	3.98 (1.35)
Ethnicity				
	Anxiety	Sadness	Anger	Positivity
Lambs	3.54 (1.79)	2.23 (1.13)	2.10 (1.26)	2.58 (1.53)
Presidents	2.47 (1.40)	2.01 (1.16)	1.73 (1.11)	4.19 (1.63)

*Risk.* I hypothesized that risk would play a meditational role in the link between anxiety and trust. This hypothesis was not supported by the data. Risk was not correlated with the

outcome variable (depersonalized trust), making it impossible to act as a mediator in this experiment. Risk will not be discussed further.

Table 5.2 Correlation Matrix for Variables of Interest

	1	2	3	4	5	6	7	8
1. Film	—	-0.05	-0.08	0.03	0.31**	0.15	0.05	-0.29**
2. Social Identity	0.02	—	0.04	0.27**	0.08	0.13	0.15	0.06
3. Risk	0.13	0	—	0.12	0	0	0	0.32**
4. Dep Trust	-0.06	0.34**	-0.07	—	0.14	0.21*	0.11	0.12
5. Anxiety	.40**	0.13	0.04	0.08	—	0.59**	0.43**	-0.44**
6. Anger	.20*	0.18	0.02	0.04	0.6**	—	0.49**	-0.4**
7. Sadness	0.1	0.07	0.09	-0.02	0.37**	0.37**	—	-0.15
8. Positivity	-0.32**	0.05	-0.08	0.13	-0.42**	-0.43**	-0.19*	—

*Depersonalized trust.* I assessed depersonalized trust by using a 13-item questionnaire (see Appendix A) and these items were highly intercorrelated ( $\alpha = .81$ ). The three items measuring individuals' general trust in others (see Brehm & Rahn, 1997) were assessed at the outset of the session, before any experimental manipulations occurred. These three correlated items were averaged into an index of general trust in others ( $\alpha = .40$ ). This index, which correlated negatively with depersonalized trust  $r(101) = -.34, p < .01$ , was used as a control variable (covariate) for the regression model, reported below.

#### *Regression Analyses*

I decided to analyze the anxiety scores as a continuous variable rather than as a dichotomous variable (viz., film condition: Lambs versus Presidents). Using the film condition rather than experienced anxiety as the predictor of trust would greatly decrease the richness of the data (i.e., decreased variability). Anxiety is the theoretical link to trust; therefore, it would be

most appropriate to analyze the anxiety scores as a continuous measure. According to Tabachnick and Fidell (2007), when using continuous independent and dependent variables, multiple regression is the best statistical technique to use.

I examined the overall effects of social identity and anxiety levels on depersonalized trust. To test the main hypothesis, a cross-product interaction term was also included. There was no main effect for anxiety in predicting depersonalized trust,  $t(102) = .563$ ,  $p > .05$ ,  $sr^2 = .002$ . However, there was a significant main effect for social identity predicting depersonalized trust,  $t(102) = 3.09$ ,  $p < .01$ ,  $sr^2 = .078$ . There was also a significant interaction effect between social identity and anxiety,  $t(102) = -2.06$ ,  $p < .05$ ,  $sr^2 = .035$ . The model accounted for 13% of the variance in depersonalized trust. Furthermore, the interaction between social identity and anxiety levels accounted for a 4% change in the accounted-for variance for depersonalized trust.

Table 5.3 Regression Statistics Predicting Depersonalized Trust

Predictor Variables	<i>b</i>	<i>SE</i>	<i>sr</i> <sup>2</sup>	<i>R</i> <sup>2</sup>	$\Delta R^2$
Religion ( <i>N</i> = 107)					
Social ID	.171	.05	.079	.12	
Anxiety	.001	.04	.003	.12	
Soc ID x Anxiety	-.065	.03	.035	.16	.04*
Ethnicity ( <i>N</i> = 101)					
Social ID	.213	.07	.069	.21	
Anxiety	.074	.04	.018	.21	
Soc ID x Anxiety	.097	.04	.033	.24	.03*

#### *Simple Slopes Analyses*

Simple slopes analyses were performed in order to investigate the relationship between anxiety and depersonalized in-group trust at different levels of social identification (high versus



low) with regard to their group (religion). The simple slope of depersonalized trust regressed onto anxiety at the mean level of social identification was not significant,  $b = .022$ ,  $p > .05$ . When investigating the simple slope of depersonalized in-group trust and anxiety at one standard deviation above the mean of social identification (i.e., high identifiers), there was no significant effect,  $b = -.07$ ,  $p > .05$ , contrary to the main hypothesis. Finally, when investigating the simple slope of depersonalized trust and anxiety at one standard deviation below the mean of social identification (i.e., low identifiers), the effect was marginally significant,  $b = .114$ ,  $p = .06$ .

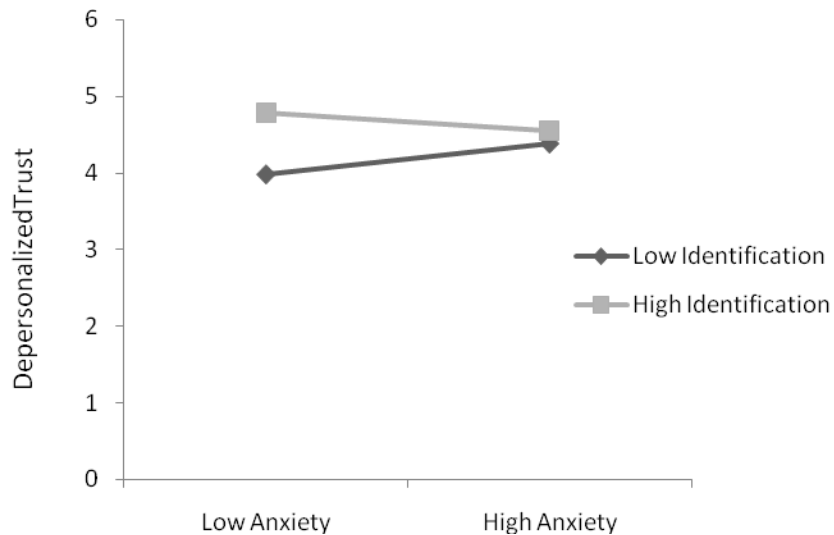


Figure 5.1 Simple Slopes Analyses for Religion

### *Emotion Changes*

The emotion change refers to the second emotion check the participants completed after they had reported levels of trust toward their fellow in-group members (viz., religion). This emotion change score was computed by taking the participants' second emotion score and subtracting it from their first emotion score for each emotion index. A positive score indicates that the participant's emotion had decreased from their initial emotion check to the second

emotion check. Conversely, a negative score indicates that the participant's emotion had increased from their initial emotion check to the second emotion check. High and low identifiers were derived by performing a median split and testing the correlations of the emotion score changes within the two types of identifiers. There was a significant correlation between depersonalized trust scores and a change in the participants' positive emotion,  $r(52) = -.35$ ,  $p = .01$ , for low identifiers. This correlation demonstrates that, for low in-group identifiers, as depersonalized trust increases, so does the participant's emotional positivity. However, I also examined this relationship by regression techniques. In order to do this, I regressed the second emotion score onto the participant's first emotion score and saved the standardized residuals. This was done to demonstrate an emotional change score. I then regressed in-group identification, depersonalized trust, and their interaction onto the emotional change score (i.e., the standardized residuals). Using this analysis, I did not find a significant interaction between in-group identification and depersonalized trust predicting the participant's change in their positivity,  $b = -.047$ ,  $sr^2 = .001$ ,  $t(103) = -.520$ ,  $p = .60$ .

### *Ethnicity*

*Level of social identification.* The nine social identification items and the Inclusion of In-group in the Self scale were reliably intercorrelated ( $\alpha = .86$ ). These items were combined into an index of social identification.

*Emotion Checks.* The four anxious emotion items (*worried, anxious, tense, nervous*) were highly intercorrelated ( $\alpha = .88$ ), and were averaged into an anxious emotion index. The four angry items (*irritated, angry, agitated, furious*) were highly intercorrelated ( $\alpha = .82$ ), and were averaged into an anger emotion index. The two sad items (*sad, depressed*) were highly intercorrelation ( $\alpha = .90$ ), thus averaged. Finally, the three positive items (*happy, cheerful, pleasant*) were highly intercorrelated ( $\alpha = .88$ ) and averaged into a positivity index.

A MANOVA procedure was again performed, using all four emotion indices as dependent variables, to test differences between film conditions (see Table 2). Participants in the Lambs condition were significantly more anxious than those in the Presidents condition,  $F(1,$

99) = 11.21,  $p < .001$ ,  $\eta^2 = .10$ . Positivity was greater in the Presidents condition than in the Lambs condition,  $F(1, 99) = 9.21$ ,  $p < .05$ ,  $\eta^2 = .09$ . Anger did not differ between the Lambs condition and the Presidents condition,  $F(1, 99) = 2.47$ ,  $p > .05$ ,  $\eta^2 = .02$ . Finally, sadness did not differ between the Lambs condition and the Presidents condition,  $F(1, 99) = .32$ ,  $p > .05$ ,  $\eta^2 = .00$ . Anxiety was again found to have the highest score, while positivity had the highest score within the Presidents condition.

*Risk.* It was hypothesized that risk would play a mediational role in the relationship between anxiety and trust. Again, this hypothesis was not supported by the data. As in the religion condition, risk was not correlated with the outcome variable (depersonalized trust; see Table 3) and could thus not be considered as a mediator.

*Depersonalized trust.* The 13 depersonalized trust items were highly intercorrelated ( $\alpha = .86$ ). The three items measuring individuals' general trust in others were averaged into an index of general trust in others ( $\alpha = .44$ ). This index, which did not significantly correlate with depersonalized trust  $r(107) = -.13$ ,  $p > .05$ , was used as a control variable (covariate) for the regression model, reported below.

### *Regression Analyses*

As with the religion sample, I examined the overall effects of social identity and anxiety levels (continuous self-report variable) on depersonalized trust (see footnote 2). There was no main effect for anxiety in predicting depersonalized trust,  $t(96) = 1.53$ ,  $p > .05$ ,  $s^2 = .018$ . There was a significant main effect for social identity predicting depersonalized trust,  $t(96) = 2.97$ ,  $p < .05$ ,  $s^2 = .069$ . There was a significant interaction between social identity and anxiety,  $t(96) = 2.05$ ,  $p < .05$ ,  $s^2 = .033$ . The model accounted for 21% of the variance in depersonalized trust. Furthermore, the interaction between social identity and anxiety levels accounted for a 3% change in the accounted-for variance for depersonalized trust ( $\Delta R^2 = .03$ ).

### *Simple Slopes Analyses*

Simple slopes analyses were again performed in order to examine the link between anxiety and depersonalized in-group trust at different levels of the participants' social

identification (high versus low) with their group (ethnicity). The analysis of the simple slope of depersonalized trust regressed onto anxiety at the mean level of social identification was not significant  $b = .06, p > .05$ . However, when regressing depersonalized trust onto anxiety at one standard deviation above the mean of social identification (i.e., high identifiers), there was a significant effect,  $b = .183, p < .05$ , supporting the main hypothesis for this study. The simple slope of depersonalized trust on anxiety at one standard deviation below the mean of social identification (i.e., low identifiers), was not significant,  $b = -.063, p > .05$ .

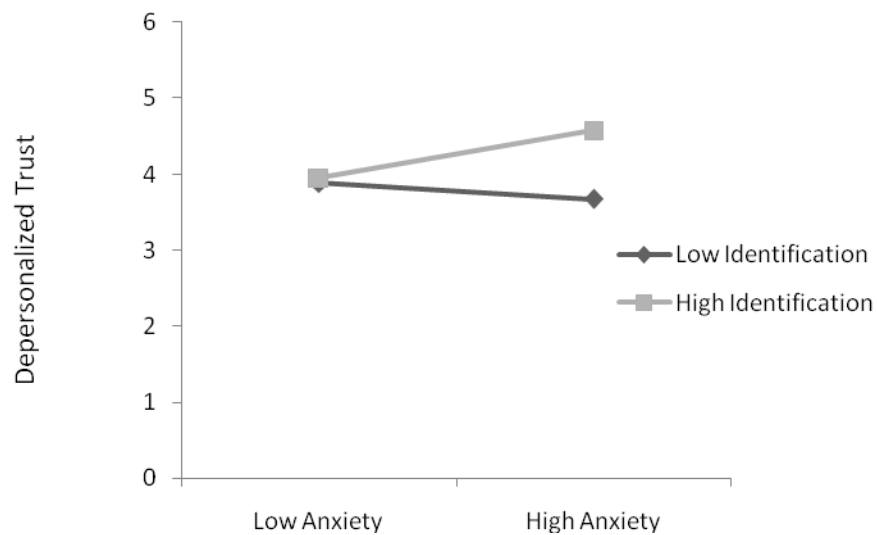


Figure 5.2 Simple Slopes Analyses for Ethnicity

### *Emotion Changes*

There was a significant positive correlation between depersonalized trust scores and a change in the participants' anxiety level,  $r(52) = .27, p = .05$ , for high identifiers only. This correlation implies that as reported depersonalized trust increases, anxiety tends to decrease. The other emotion change scores (e.g., anger, sadness, and positivity) did not correlate with the participants' level of depersonalized trust. I again investigated this relationship utilizing regression techniques. Results showed a marginally significant interaction between in-group identification and depersonalized trust when predicting the participant's anxiety emotion change,

$b = -.144$ ,  $sr^2 = .04$ ,  $t(97) = -1.90$ ,  $p = .06$ . I then examined this interaction by performing simple slope analyses. In particular, I examined the relationship between depersonalized trust and the participant's emotional change at different levels of in-group identification. The simple slope of the emotional change score regressed onto depersonalized trust at one standard deviation below the mean of social identification (i.e., low identifiers) was not significant,  $b = .112$ ,  $sr^2 = .007$ ,  $t(97) = .895$ ,  $p > .05$ . When investigating the simple slope of the emotion change score regressed onto depersonalized in-group trust at one standard deviation above the mean of social identification (i.e., high identifiers), there was again no significant effect,  $b = -.214$ ,  $sr^2 = .04$ ,  $t(97) = -1.33$ ,  $p > .05$ . Although this finding was not significant, the directionality of the data suggests that the more trust a participant bestows upon his or her in-group members, the less anxiety those participants felt for individuals who highly identified with their ethnic group.

## CHAPTER 6

### DISCUSSION

The purpose of this study was to investigate the link between anxiety, group identification, and depersonalized trust. It was hypothesized that individuals who highly identify with their in-group (i.e., religion or ethnicity) would be more likely to extend trust to an unknown member of that in-group. This was supported within both religion and ethnicity conditions. It was also hypothesized that anxiety would moderate the relationship between social identification and depersonalized trust such that individuals who highly identify (versus low identifiers) with their in-group while in an anxious state (versus a non-anxious state) will be more trusting toward fellow in-group members. This hypothesis was supported in the ethnicity condition, but not in the religion condition. Those individuals who highly identified with their ethnic group were more likely to extend trust to an unknown member of that in-group as an increasing function of anxiety.

It was further hypothesized that risk would play a mediational role in the link between anxiety and depersonalized trust. However, risk was not correlated with the outcome variable, depersonalized trust. Therefore, the relationship between anxiety and depersonalized trust could not have been mediated by risk. A possible explanation for this null result may be due to the fact that the film clip the participants watched prior to the risk assessment involved a risky scenario depicting a “brave” role-model. For example, Jodie Foster (the FBI agent) was in a situation where she entered a suspect’s home with the intent to harm. This was very heroic on her part, which in turn may have induced a feeling of bravery in the participants. The risk prediction was based on the premise that the cognitive process underlying anxiety is an estimator of risk (Lerner & Keltner, 2001). However, a measure of threat aversion may be a better theoretical link between anxiety and trust. This threat aversion may be targeting an

affective response more than a cognitive one. Future research should consider investigating an assessment of threat aversion rather than risk when examining an anxiety-trust link.

Apart from risk, it would be of interest to examine whether an increase in a person's in-group identification mediates the relationship between anxiety and depersonalized trust. According to Hogg's (2007) uncertainty-identification theory, group identification is a method used to reduce unwanted ambiguity that may arise in social situations. Therefore, the more uncertainty encountered in a situation, the greater the need to identify with the in-group. In turn, identification should predict the extension of trust to in-group members.

Individuals who highly identified with their ethnic group were significantly more likely to trust other in-group members under high versus low anxiety. It was further found that trust scores were associated with a decrease in the participants' anxiety scores. This is an indication that once participants thought about their fellow in-group members, they felt less anxious. This is, however, just a correlation, but it may be the first step in detecting a causal link between trusting fellow group members and reducing anxiety or "feeling better". This is the first report of a theoretically-derived relationship between in-group trust and feeling better or reducing uncertainty to my knowledge. This finding is consistent with Hogg's (2007) uncertainty-identity theory, in which individuals identify with in-groups to reduce uncertainty and ambiguity in their lives. The current study also replicates Yuki et al.'s (2005) experiment in which they found social identification to be positively correlated with depersonalized trust (see also Kenworthy & Jones, 2008). The present experiment, however, focused on how highly identifying in-group members (compared to low identifiers) trust their fellow group members as an increasing function of experimentally-induced anxiety.

There was an unexpected finding in this study, in that the two social group conditions (religion and ethnicity) had different results. Participants who highly identified with their ethnic in-group were more trusting towards other in-group members when anxious, whereas according to the directionality of the data it appears that participants who highly identified with their religious in-group exhibited less trust towards other in-group members when anxious. At first

glance, the idea of one not trusting other religious in-group members when anxious seems incompatible with the theoretical approach of this research. However, from the perspective of terror management theory (Greenberg, Solomon, & Pyszczynski, 1997), it seems less paradoxical. Terror management theory states that we as humans are innately afraid of death and these authors propose coping strategies to use in order to “buffer this anxiety”. These authors adapted their work from Ernest Becker’s (1973) supposition in which the universality of death terror and the need to protect against it plays an essential role in our everyday lives. Two methods of managing our terror of death are the adoption of one’s cultural worldviews and the development of a psychological structure for self-esteem management. “Cultural worldviews” consist of one’s cultural belief system which entails the beliefs and faith one has in such cultural worldviews. This cultural belief system helps to explain our existence and provides the world with meaning so one can have a sense of personal value. Self-esteem can be attained by an individual truly believing in the cultural worldview while also living up to its standards. Taken together, these two components are methods we use to cope with the fear of death.

Using this theory, one might expect that an individual who is highly religious (e.g., lives up to and believes in their cultural worldviews) would like to alleviate anxiety by believing in and trusting a higher power. From this logic, it makes sense that a person who is highly religious and in an anxious situation would be more likely to turn to (or trust) God (e.g., Supreme Being) versus believing in or trusting another human being, or even a group of people. There has been some illustration of this in the literature regarding religion and coping mechanisms for stressful anxious situations. Recently, Jonas and Fischer (2006) examined the relationship between intrinsic and extrinsic religious individuals and methods they used to defend their mortality salience. The authors operationally defined an intrinsic religious individual as one who lives by their religious beliefs; these beliefs are motivating and these individuals base their life decisions on their religion. An extrinsic religious individual is one who believes in their religion in order to avoid ostracism or uphold a certain social standing. Using a terror management perspective (Greenberg et al., 1997), these authors wanted to induce a fearful/anxious (death salient)



situation for participants. In order to do this, Jonas and Fischer decided to manipulate (quasi-experimentally) the salience of the Istanbul (Turkey's most populous city) terrorist attacks that occurred in November, 2003. For high mortality salience, participants were tested immediately after the attacks, and for low mortality salience, participants were tested one week after the attacks. The results showed that "believing in God" for intrinsic religious individuals was a more effective coping strategy with regards to the fear of terrorist attacks as opposed to "talking with other people". Individuals tend to default back to their religious faith when faced with fearful/anxious arousing situations (Jonas & Fischer, 2006). This is consistent with the pattern of results from the current study, in which participants who highly identify with their religious group were (directionally) less trusting towards other religious in-group members when in an anxious/fearful situation.

Unfortunately, I did not collect any God-related data in this study and further research is needed to truly discover what is occurring in the religion condition. I would like to further investigate this phenomenon by studying the target (i.e., people, God, family, etc.) of trust for highly religious individuals in anxious situations. Contrary to this idea, those individuals who identified highly with a particular religious affiliation failed to differ significantly in the high and low anxious emotional states. One possible explanation for this observation may be due to a ceiling effect. It is possible that these individuals effectively capped their level of available trust and were unable to extend trust to those members outside of the highly identified condition.

#### *Limitations and Future Research*

One limitation in this study concerns the method of assessing the participants' trusting tendencies. This was completed by a self-report measure. Although this approach has been used in prior research (e.g., Dunn & Schweitzer, 2005; Yuki et al., 2005), future research should assess the willingness to trust by means of behavioral measurements. One technique that could be used to assess a behavioral measure of trust is the concept of a prisoner's dilemma game. A behavioral measure of one's trusting tendencies can be more informative than a self-report measure, especially when demand or social desirability pressures create biases in responding.

Participants can be somewhat biased when answering questionnaires by means of self-report measures. However, observing a phenomenon by means of behavioral data can, to some degree, eliminate participant bias.

Future research should try to incorporate a behavioral measure of trust and begin to understand potential mediators in the anxiety—trust link. I would like to take the findings from this experiment and further explore the idea that religious individuals in fearful situations are more comforted by their God than by fellow human beings, even those from an important social group. I believe that an individual's locus of control (Rotter, 1966) might moderate the relationship between a highly religious individual and their choice of social support (e.g., God or friends). Individuals with an internal locus of control feel as if they can control their destiny in life, whereas individuals with an external locus of control feel as if events in their life occur due to some external circumstance. Individuals who exhibit an external locus of control are more likely to blame mishaps on external circumstance; therefore, such people would be more likely to look to a spiritual deity in emotionally shouldering their problems, fears, etc. Individuals with an internal locus of control would normally look within themselves for support or others who are close to them. Therefore, I would predict that individuals who exhibit an external locus of control and are highly religious would benefit more from spiritual support (e.g., God) in a high-anxiety situation than from social support (e.g., fellow in-group members). Another avenue to consider is to perform a replication of this current study using highly religious individuals (versus individuals who are not very religious) and incorporate trust questions regarding God versus trusting friends or in-group members.

Future research should also try to incorporate empirical evidence from the personality literature concerning different attachment styles (Bowlby, 1969, 1973, 1980). Bowlby discovered three primary attachment styles that infants develop as a result of their relationships with caregivers (secure, anxious-ambivalent, and avoidant). The particular attachment styles a child develops can carry over into their adult life. Some research suggests that certain individuals may even consider their God as a primary attachment figure in their lives (Beck & McDonald,

2004; Kirkpatrick, 1997; Kirkpatrick, 1998; Kirkpatrick & Shaver, 1990; Kirkpatrick & Shaver, 1992). There are two different hypotheses as to which type of attachment a person may have with God (McDonald, Beck, Allison, & Norsworthy, 2005). For instance, the correspondence hypothesis states that an individual's attachment to God mimics his or her attachment to their caregivers or lovers. The correspondence hypothesis assumes that individuals develop an attachment style early in life and base all future relationships (including those with God) on this premise. On the other hand, the compensation hypothesis states that an individual develops his or her attachment relationship to God due to some deficit in their lives with regard to their caregivers or lovers. This compensation hypothesis assumes that God can almost 'fill a missing void' in an individual's life (McDonald et al., 2005). It would be very intriguing to examine whether an individual's attachment style, prior to any anxiety manipulations, would result in significant interaction terms. I would, therefore, expect that an individual who possessed an anxious-ambivalent attachment style would exhibit more anxiety, resulting in a greater trust in God.

This study replicated Kenworthy and Jones' (2008) experiment involving anxiety and depersonalized in-group trust. It was found that those who highly identify with their ethnic in-group have a tendency to extend that trust to an unknown member of that in-group when in an anxious state. There are many implications that can be drawn with regards to the current study. In real-life situations people are subjected to natural disasters (e.g., hurricanes, tornadoes) and other anxiety-provoking situations (e.g., bystander in an armed robbery, sudden illness, job uncertainty, relationship uncertainty, etc.). The ability of individuals to become more cognizant of information such as, appropriate rescue teams during times of disaster (e.g., hurricane Katrina) and methods to alleviate anxiety (e.g., identifying with and trusting other in-group members), can greatly enhance the recuperation process in these emotional situations. Reiterating Hogg's (2007) uncertainty-identity theory, humans want to reduce ambiguity in their lives and one method of achieving this is to highly identify with their in-group. Anxiety-provoking

situations are highly uncertain and can produce very uncomfortable feelings. One way to assuage this uneasiness might include identifying with and trusting fellow in-group members.

When events occur that produce anxiety and uncertainty it would be beneficial for society as a whole to have a better inclination as to who would be the best candidate to send for rescue in these situations. Implications of this study can also apply to less dramatic anxiety provoking events that occur in everyday life. For instance, job and relationship anxiety, financial decisions, everyday irritants, etc., can have profound effects on our lives and it would be beneficial to understand how to deal with these issues more efficiently and effectively. When one has encountered such mishaps it is comforting to know that turning to and trusting fellow in-group members can help reduce the anxiety felt or perceived in such situations.

Trust is a necessary component utilized in everyday situations and is crucial in order to initiate interactions with fellow human beings (Rotter, 1967). Without our willingness to trust other individuals we would not be able to function properly in everyday situations. This experiment has provided a further understanding of who we are more likely to trust in anxiety provoking situations and how the role of group membership can help alleviate the uncertainty that is accompanied by these situations.

APPENDIX A

DEPERSONALIZED TRUST

Indicate your group again here: \_\_\_\_\_

If I find out that a person belongs to this group, I trust her or him automatically.

I strongly disagree    1       2       3       4       5       6       7       strongly agree

To me, all of the group members are the same when it comes to being trustworthy.

I strongly disagree    1       2       3       4       5       6       7       strongly agree

I trust all members of this group.

I strongly disagree    1       2       3       4       5       6       7       strongly agree

I would give a typical group member an important letter to mail after s/he mentions that s/he is stopping by the post office today.

I strongly disagree    1       2       3       4       5       6       7       strongly agree

If a typical group member promised to copy down class notes for me, s/he would follow through.

I strongly disagree    1       2       3       4       5       6       7       strongly agree

If a typical group member and I decided to meet for coffee, I would be certain s/he would be there.

I strongly disagree    1       2       3       4       5       6       7       strongly agree

I would expect a typical group member to tell me the truth if I asked him/her for feedback on an idea.

I strongly disagree    1       2       3       4       5       6       7       strongly agree

If a typical group member was late to a meeting, I would assume that there was a good reason for the delay.

I strongly disagree    1       2       3       4       5       6       7       strongly agree

A typical group member would never intentionally misrepresent my point of view to others.

I strongly disagree    1       2       3       4       5       6       7       strongly agree

I would expect a typical group member to pay me back if I loaned him/her \$40.

I strongly disagree    1       2       3       4       5       6       7       strongly agree

If a typical group member laughed unexpectedly at something I did or said, I would know s/he was not being unkind.

I strongly disagree    1       2       3       4       5       6       7       strongly agree

If a typical group member gave me a compliment on my haircut I would believe s/he meant what was said.

I strongly disagree    1       2       3       4       5       6       7       strongly agree

If a typical group member borrowed something of value and returned it broken, s/he would offer to pay for the repairs.

I strongly disagree    1       2       3       4       5       6       7       strongly agree

APPENDIX B

RISK ASSESSMENT

For each of the following statements, please indicate your likelihood of engaging in each activity or behavior.

Provide a rating from 1 to 7, using the following scale:

1	2	3	4	5	6	7
extremely unlikely	unlikely	slightly unlikely	not sure	slightly likely	likely	extremely likely

1. Betting a full day's income at the horse races. (G) \_\_\_\_\_
2. Cheating on an exam. (E) \_\_\_\_\_
3. Investing 10% of your annual income in a moderate growth mutual fund. (I) \_\_\_\_\_
4. Consuming five or more servings of alcohol in a single evening. (H) \_\_\_\_\_
5. Betting a full day's income at a casino. (G) \_\_\_\_\_
6. Passing off somebody else's work as your own. (E) \_\_\_\_\_
7. Going whitewater rafting during rapid water flows in the spring. (R) \_\_\_\_\_
8. Not wearing a seatbelt when being a passenger in the front seat. (H) \_\_\_\_\_
9. Investing 10% of your annual income in government bonds (treasury bills). (I) \_\_\_\_\_
10. Defending an unpopular issue that you believe in at a social occasion. (S) \_\_\_\_\_
11. Piloting your own small plane, if you could. (R) \_\_\_\_\_
12. Arguing with a friend about an issue on which he or she has a very different opinion. (S) \_\_\_\_\_



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