

Syracuse University

SURFACE

Dissertations - ALL

SURFACE

December 2015

Permitting Joint-Control in Asymmetric Dependence Relationships: Investigating a Strategy for Increasing Trust

Michael loerger
Syracuse University

Follow this and additional works at: <https://surface.syr.edu/etd>



Part of the [Social and Behavioral Sciences Commons](#)

Recommended Citation

loerger, Michael, "Permitting Joint-Control in Asymmetric Dependence Relationships: Investigating a Strategy for Increasing Trust" (2015). *Dissertations - ALL*. 366.

<https://surface.syr.edu/etd/366>

This Thesis is brought to you for free and open access by the SURFACE at SURFACE. It has been accepted for inclusion in Dissertations - ALL by an authorized administrator of SURFACE. For more information, please contact surface@syr.edu.

Abstract

Most work related to trust in dyadic interactions has focused on the establishment and development of trust in situations where partners are of relatively equal status and have the ability to impact each other's outcomes (Rempel, Holmes, & Zanna, 1985; for a review Simpson, 2007a; 2007b). However, many social interactions can be characterized as asymmetric dependence situations where the outcomes of one partner (i.e., the dependent partner) are completely controlled by another (i.e., the controlling partner). The current work investigated trust in the context of one-off asymmetric dependence interactions, and experimentally explored one strategy for increasing trust in these exchanges. In Study 1, faith was found to be the component of trust most predictive of trust-based behavior. Additionally, the controlling partner soliciting input from the dependent partner in this type of interaction was found to be associated with increased ratings of faith, when the dependent partner felt like his or her input was taken into account by the controlling partner. Study 2 demonstrated that soliciting input can have a negative effect on faith if the dependent partner's input is not reflected in the controlling partner's decision and no explanation is provided for this decision. Overall, this work suggests the controlling partner soliciting input from the dependent partner can result in increased trust in one-off asymmetric dependence interactions, as long as the dependent partner feels like his or her input was taken into account, and an explanation is provided if his or her input is not reflected in the controlling partner's decision. This work has potential implications for asymmetric dependence relationships encountered outside the laboratory (e.g., patient-provider relationships, salesperson-customer relationships, supervisor-employee relationships).

PERMITTING JOINT-CONTROL IN ASYMMETRIC DEPENDENCE RELATIONSHIPS:
INVESTIGATING A STRATEGY FOR INCREASING TRUST

By

Michael Ioerger
B. S., University of Nebraska – Lincoln, 2011

MASTER'S THESIS

Submitted in partial fulfillment of the requirements for the degree of
Master of Science in Social Psychology

Syracuse University
December 2015

Copyright © Michael Ioerger 2015

All Rights Reserved

Acknowledgements

I would like to thank my advisor, Dr. Laura E. VanderDrift, for all of the time and effort she put into guiding me through this process, and for giving me an opportunity to work with her at Syracuse University. I would also like to thank Dr. Richard H. Gramzow, Dr. Leonard S. Newman, and Dr. Peter A. Venable for serving on my thesis committee. Their insightful questions and critiques shaped this work and helped me to grow intellectually. Finally, I would like to thank Dr. Justin J. Lehmler for helping me to start down this path, and Ryan, Chris, Jack, and Dat for all of their love and support throughout this process.

Table of Contents

Abstract.....	i
Title Page.....	ii
Copyright Notice	iii
Acknowledgments.....	iv
Table of Contents	v
List of Figures	vii
I. Trust in One-off Asymmetric Dependence Relationships.....	1
A. Primary Models of Trust.....	3
B. Trust in Asymmetric Dependence Relationships.....	4
C. Enhancing Trust Through Permitted Joint-Control	6
II. The Current Work	7
III. Study 1	8
D. Method.....	9
E. Results.....	18
F. Discussion	21
IV. Study 2	22
A. Method.....	23
B. Results.....	25
C. Discussion	29
V. General Discussion.....	30
A. Implications.....	32
B. Strengths.....	34

C. Limitations	35
D. Future Directions	37
E. Conclusion	39
Tables.....	40
Figures.....	52
Appendix A: Initial Relationship Questions Battery	58
Appendix B: Modified Investment Model Scale Questions	60
Appendix C: Relationship-Specific Attachment Style Questions.....	61
Appendix D: Participant Feedback Script	62
Appendix E: Post-Interaction Dependent Measure Assessment Script	63
Appendix F: Trust Measure Questions	64
References	65
Vita	70

List of Figures

Figure 1. Study 1 statistical diagram for faith	52
Figure 2. Study 1 statistical diagram for dependability	53
Figure 3. Study 1 statistical diagram for predictability.....	54
Figure 4. Study 2 statistical diagram for faith	55
Figure 5. Study 2 statistical diagram for dependability	56
Figure 6. Study 2 statistical diagram for predictability.....	57

Trust in One-off Asymmetric Dependence Relationships

When individuals trust each other, social interactions are more cooperative, efficient, and satisfying (Balliet & Van Lange, 2003; Rempel et al., 1985). This causes individuals to feel secure, confident, and optimistic about the relationship with their interaction partner (Rempel, Ross, & Holmes, 2001; Simpson, 2007a; 2007b). With this confidence, individuals feel safe to engage in more constructive, pro-relationship behavior, which leads to these positive interactions transitioning into relationships that persist over time (Wieselquist, Rusbult, Foster, & Agnew, 1999). As such, establishing and strengthening trust in interactions is a beneficial and important component of any interpersonal relationship.

In many types of relationships, individuals learn to trust each other through an iterative process of exchanges (Rempel, Holmes, & Zanna, 1985; for a review Simpson, 2007a; 2007b). Specifically, when individuals have relatively equal status and are mutually-dependent, they engage in a give-and-take style interaction pattern in which they learn that the other is worthy of their trust. This type of process is not always possible, however. For example, in one-off interactions or other interactions where trust evaluations must be made quickly, with minimal information, an iterative process may not have time to develop, resulting evaluations being based on impulses (Murray et al., 2011; Murray, Gomillion, Holmes, Harris, & Lamarche, 2013). For such decisions, individuals often rely on their interaction partner's levels of warmth and competence to make decisions such as whether they should trust or not (Fiske, Cuddy, Glick, 2006).

An interaction type more wrought with obstacles than even a one-off interaction is an interaction between two individuals of differing levels of dependence on the other. These interactions are called asymmetric dependence interactions, characterizing the fact that

dependent partners are reliant on controlling partners. They are often seen in interactions between a provider and a consumer (e.g., patient-provider interactions, salesperson-buyer interactions). For trust building, asymmetric dependence interactions are challenging, as the dependent partner has no choice but to subject themselves to the controlling partner, and the controlling partner does not require cooperation to obtain optimal outcomes. Nevertheless, trust can be built in these interactions (Solomon, 1960).

One strategy controlling partners can employ to earn the dependent partner's trust is to solicit the dependent partners' input during the interaction. At minimum, by doing so the dependent partner will feel like the interaction is more collaborative and joint-controlled, in which trust is built as described previously (e.g., by individuals assessing each other's warmth and competence in one-off interactions, or by iterative interactions in longer relationships). At best, the dependent partner will perceive the interaction as a diagnostic situation in which the controlling partner's motivations and intentions are discernable through his or her actions (Simpson 2007b). By appearing to relinquish some control to the dependent partner, the controlling partner conveys that he or she does not intend to exploit the dependent partner. This builds trust (Simpson, 2007b).

Whereas soliciting input from the dependent partner is theoretically supported as a strategy for improving trust in asymmetric dependence relationships, many questions still remain regarding adopting this strategy (e.g., Das & Teng, 1998; Seppala, Lipponen, Prittila-Backman, & Lipsanen, 2011). Through what mechanisms does soliciting input increase feelings of trust? Which dimensions of trust are enhanced most by this strategy? Does enhancing trust via this strategy lead to beneficial behavioral outcomes? The current work provides an experimental investigation of the ability of this strategy to increase trust and trust-based behavior.

Primary Models of Trust

Trust in dyadic interactions has commonly been conceptualized from two primary perspectives. Initial conceptualizations approached trust from a dispositional perspective emphasizing the individual attributes (e.g., attachment, self-esteem, self-concept) that are associated with greater levels of trust in others (for a review see Simpson, 2007a). Recently, the primary body of work on trust has placed more emphasis on conceptualizing trust in dyadic interactions from an interdependence perspective (Simpson, 2007a), which focuses on trust being a product of people needing to rely on one another and cooperate in their social interactions (Balliet & Van Lange, 2013; Kelley et al. 2003; Rempel et al., 1985). In these situations, partners are dependent, at least in part, on one another for their outcomes. This can create a tension between partners acting to meet their own self-interests, or acting more benevolently to help others meet their needs, potentially at a cost to themselves (for a review see Balliet & Van Lange, 2013). Thus, trust builds between partners over time as partners demonstrate their willingness to sacrifice, and this willingness to sacrifice is recognized by the other and reciprocated.

To understand the benefits of trust, most experimental investigations have focused on the reciprocal exchange of sacrifice. This has resulted in many experimental models of trust being based on economic paradigms, where trust is operationalized as the willingness to risk giving some amount of resources to a partner with the hope and expectation that the partner will then reciprocate. For example, this basic pattern generally underlies the Prisoner's Dilemma (Komorita, 1965; Luce & Raiffa, 1957; Tucker, 1983), BDM investment (Berg, Dickhaut, McCabe, 1995; Johnson & Mislin, 2011), and centipede (McKelvey & Palfrey, 1992) games. However, this work assumes that the partners are relatively equal in status and have the ability to directly influence one another, resulting in these types of studies using, almost exclusively,

mutual partner-control or mutual joint-control paradigms. Work exploring trust and its antecedents and consequences in mutual partner-control and mutual joint-control situations is informative for many daily social interactions (e.g., working as part of a team, social interactions with friends and strangers, exchanging goods and services), but it assumes that trust is something that can easily be withheld, and that if trust is broken, there is the potential of a proportional negative outcome for the offending partner. However, in situations where people are dependent on partners to have their needs met and they have no control over the immediate outcomes their partners face (i.e., asymmetric dependence situations), these assumptions begin to break down.

Trust in Asymmetric Dependence Relationships

In asymmetric dependence relationships, a dependent partner is reliant on a controlling partner (Kelley et al., 2003). These relationships exist because they are the only way for the dependent partners to have their needs met, but nevertheless, trust is a central concern. A dependent partner who enters an asymmetric dependence relationship with a new partner has a certain amount of suspicion about whether the controlling partner can be trusted (Simpson, 2007b; Murray et al., 2013). However, initiating this interaction suggests the dependent partner's suspicions are tempered with enough faith in the intentions of the controlling partner to put themselves at risk. Rempel et al. (1985) describes this type of faith as one of the three core components of trust (i.e., faith, dependability, and predictability), and it is identified as the component that most influences overall feelings of trust in initial interactions because it does not require previous experiences with the evaluation target. Whereas people may be able to provide ratings of dependability and predictability after a single interaction based on superficial traits such as warmth and competence, multiple interactions are needed for a dependent partner to assess whether a controlling partner is someone who can be relied upon (i.e., dependable) and

whether the partner's behavior is consistent, stable, and controlled over time (i.e., predictable; Rempel et al., 1985). Faith, on the other hand, provides the impetus for a dependent partner to initially interact with a controlling partner, and this single interaction allows the dependent partner to evaluate whether his or her trust was well placed. Thus, it is important for controlling partners to enhance feelings of faith during initial interactions, in order to promote feelings of trust ease suspicion (Simpson, 2007b), and to confirm that the dependent partners' faith is well placed (Rempel et al., 1985).

Asymmetric dependence interactions are inherently diagnostic situations because the dependent partners have to be vulnerable to the controlling partners in order to have their needs met. Entering into diagnostic situations requires an initial level of faith and confidence for the dependent partners to take a personal risk and allow the controlling partners the opportunity to demonstrate whether they can be trusted (Simpson, 2007b). Thus, behavior by controlling partners demonstrating willingness to act in the dependent partners' best interests, even at the cost of relinquishing some of their own control and benefits, conveys to dependent partners that their faith is well-placed, and their controlling partners can be trusted. This trust results in the dependent partners feeling secure and expressing pro-relationship behaviors (Simpson, 2007b). Proximally this trust increases cooperation and other trust-based behaviors (Balliet & Van Lange, 2003), and distally, this trust motivates dependent partners to engage in behaviors that build and sustain a relationship with their controlling partners (Simpson, 2007b). However, if the dependent partners place their faith in controlling partners who do not provide the expected outcome, the dependent partners may feel as though their trust has been violated. Such violations can result in dependent partners expressing self-protection behaviors, including withdrawing from the relationship and focusing on finding other ways to meet their needs

(Wieselquist et al., 1999). These reactions are designed to enable individuals to prevent their own interests from deteriorating at the hands of others, but ultimately they reduce cooperation between partners and result in the deterioration of the relationship.

Outside the laboratory this tendency to self-protect can be problematic because there are often many factors that play into outcomes that are outside the control of the controlling partner. For example, if a mechanic completing a routine oil change and tire rotation for a new customer notices that one of the breaks needs to be replaced because it is rusted to the point of being ineffective, it will be challenging for the mechanic to maintain the trust of the new customer because the expected routine oil change and tire rotation has now become a much more expensive car repair. The customer may begrudgingly pay for the repair, but it is likely that that customer's faith in the mechanic is lost and he or she will not return for service again in the future. This problem calls into question how trust can be maintained in situations where it is not always possible for the controlling partner to give the dependent partner his or her desired outcomes.

Enhancing Trust Through Permitted Joint-Control

One potential way to maintain trust in the face of possible undesired outcomes is to create a diagnostic situation earlier in the relationship that helps to strengthen faith so that it is not completely dependent on the final outcome of interaction. This might be accomplished in brief interactions by having the controlling partner allow the dependent partner to feel like he or she has the ability to influence the outcome of the interaction. By appearing to relinquish some control, the controlling partner transforms the inherently partner-controlled interaction into an interaction that, at least on the surface, feels joint-controlled to the dependent partner (even though the controlling partner still has final say over the actual outcome). The controlling partner

relinquishing some control voluntarily promotes trust because it communicates the willingness of the controlling partner to sacrifice to meet the dependent partner's needs. Thus, if the controlling partner ultimately cannot give the dependent partner his or her desired outcome, the dependent partner will have more than just the final interaction outcome on which to base evaluations of faith. However, because faith is cultivated by identifying partners' motivational intentions (Simpson, 2007a; 2007b), it is likely important the dependent partner feels like the controlling partner actually understands his or her desires and takes them into account when they are solicited, so that the solicitation does not feel like an empty gesture, and so that the decision is viewed as being made fairly. It may be especially important to ensure the dependent partner feels like the controlling partner took his or her desires into account in situations where the controlling partner's decision does not reflect the dependent partner's input. In these situations, it is important to keep from undermining the positive attributions made to the controlling partner's intentions based on the solicitation by ensuring that the decision is perceived as being based on factors outside of the control of the controlling partner (Stouten, De Cremer, & Van Dijk, 2006). Including the dependent partner in the decision making process, and providing an explanation when the controlling partner's decision does not fulfill the dependent partner's wishes helps to promote a sense of fairness in both the decision making process and its outcome (Walker, Lind, & Thibaut, 1979)

The Current Work

The current work is comprised of two studies. In study 1, I tested the role of faith in one-off asymmetric dependence interactions, and investigated the impact of the controlling partner soliciting input from the dependent partner in this type of interaction. I predicted that ratings of faith would be a better predictor of trust-based behavior than ratings of dependability or

predictability in one-off asymmetric dependence interactions. I also expected that faith in one-off asymmetric interactions would be impacted by qualities of the interaction itself. Specifically, I predicted the dependent partner would provide a higher rating of faith in interactions where the controlling partner solicited his or her input, compared to interactions where input was not solicited. However, I expected this effect to be mediated by ratings of understanding, because the dependent partner needed to feel that the solicitation resulted in the controlling partner taking his or her interests into account when making the assignment decision.

Study 2 followed-up on the results from Study 1 by addressing two questions: 1. Does the dependent partner's input have to be reflected in the controlling partner's decision in order for soliciting input to increase ratings of faith through the mechanism identified in Study 1? 2. If the dependent partner's input is not reflected in the controlling partner's decision, can providing an explanation for the controlling partner's decision maintain the increase in faith attained from soliciting input? I predicted soliciting input would only increase faith when the dependent partner's input was reflected in the controlling partner's decision, unless the controlling partner provided an externally-attributed explanation justifying his or her decision. In the case of providing an explanation, I expected reported faith levels to be the same as they were for interactions where the dependent partner's input was reflected in the controlling partner's decision.

Study 1

In Study 1 participants participated in a short in-lab study where they were told they were being given an opportunity to find out diagnostic information about one of their interpersonal relationships, but that the specific relationship they would learn about would be decided by the research assistant. Thus, the research participant's experience was dependent on the decision

made by the research assistant. In this one-off asymmetric dependent interaction, the research participant was the dependent partner, and the research assistant was the controlling partner. To test the role of faith in this interaction, participants provided ratings of faith, dependability, and predictability after the interaction, and were given an opportunity to behaviorally demonstrate their level of trust. I predicted that ratings of faith would be a better predictor of trust-based behavior than ratings of dependability or predictability. Additionally, to investigate the impact of the controlling partner soliciting input from the dependent partner, the research assistants were prompted to solicit the participants' preferences in one of the two conditions. I predicted that a dependent partner who had his or her input solicited would provide higher ratings of faith compared to a dependent partner who did not have his or her input solicited, when the dependent partner felt the solicitation resulted in the controlling partner taking his or her interests into account.

Method

Participants

There were 189 undergraduates recruited from the Psychology Department participant pool who initiated the study. The final sample used in analyses was 182 participants (Control condition = 90; Input condition = 92). Seven participants were excluded for either not completing the performance evaluation ($n = 4$; i.e., the dependent measures), or for circling entire columns of numbers on the performance evaluation that included reverse-coded items ($n = 3$). A priori power calculations suggested at least 180 (90 per condition) participants were needed for the study to have sufficient (power = .80) to detect effects of a moderate size (*Cohen's f* = .25) using an ANCOVA (Numerator $df = 3$; Groups = 2; Covariates = 2). Demographically, participants were 18-52 years old ($M = 19.39$, $SD = 3.02$), 62.1% female, 64.3% Freshman

(20.3% Sophomore, 11.5 % Junior, 3.8% Senior), and identified predominately as White (63.7%; 11.0% Black, 17.0% Asian, 5.5% Hispanic/Latino, 2.7% other).

Design Overview

Upon entering the lab, participants completed an electronic informed consent. Participants then completed an initial battery of questions pertaining to their interpersonal relationships. After completing this set of questions, depending on randomly assigned condition, the research assistants were prompted to either: a) solicit participants' preferences for the relationships they would like to learn more about, or b) ask a follow-up question, unrelated to the participants' preferences. After this manipulation, participants completed two brief relationship measures and received feedback. Once participants received their feedback, they were ostensibly dismissed from the study by the research assistant. However, before they left the session, the research assistant asked the participants to complete a brief questionnaire about their interaction under the guise of being a quality improvement performance evaluation. The questions pertaining to trust on the post-interaction performance questionnaire served as a dependent measure (see below for detailed procedure and measure descriptions). Finally, before the participants left the study they were provided with an opportunity to privately express a trust-based behavior, which also served as a dependent measure (see below for detailed procedure and measure descriptions).

Research Assistants

Eight research assistants were used to run this study, all of whom were individually recruited and trained by the primary investigator. Throughout the training and data collection process the research assistants were kept blind to the hypothesis of the study. Concerns and issues related running the study were addressed by the primary investigator and discussed with

the research assistants both individually, and during weekly project meetings. Retraining on the study procedures occurred twice during data collection at project meetings, with additional feedback and retaining provided individually as needed throughout the course of the study. When running participants, research assistants were instructed to dress according to a business casual dress code, and conduct themselves in a professional manner. The primary investigator performed spot checks through out the study to ensure that each of the research assistants were adhering to the study policies and protocol.

Study Initiation and Initial Question Battery

Participants signed up for the study “testing relationship diagnostic measures” through the Psychology Department’s SONA systems recruitment website. To initiate the study, participants entered the research lab and completed the informed consent and an initial battery of questions at an individual computer station. The research assistant told each participant that the questions completed during the initial battery would be used to, “help [him/her] decide which set of diagnostic questionnaires the participant will complete.” Before completing the initial battery of questions, participants read the following prompt:

This study is testing the utility of several different relationship diagnostic measures in an undergraduate sample. Some of the diagnostic measures may potentially be interesting to complete and provide you with valuable insight into important relationships in your life; however, others may potentially be boring to complete and not provide you with any interesting information. This is a preliminary investigation, so the research assistant has been given full power to decide which measures you will complete.

These statements and prompts helped to establish and reinforce the relationship between the research assistant and the participants as being an asymmetric dependence relationship in which

the research assistant had complete control over the participants' outcomes. Additionally, the prompt made it clear that some outcomes were more desirable than others so that participants felt like there would be meaningful consequences for them based on the decision the research assistant made.

Once participants read the initial prompt, they completed a series of questions about their current and past interpersonal relationships. These questions targeted social (e.g., *How many people would you consider to be close friends?*), family (e.g., *What is the first name of the family member you feel like you have the most distant relationship with?*), work (e.g., *How many coworkers do you socialize with at work?*), school (e.g., *Did you become friends with any of the students in your largest class last semester?*), sexual (e.g., *Do you currently have someone that you consider to be your sexual partner?*), and romantic (e.g., *Have you been in a romantic relationship during the last 12 months?*) relationships (see Appendix A for the full battery of questions). Participants then completed 4 demographic questions (i.e., *What is your biological sex?*; *What is your age?*; *What is your race/ethnicity?*; *What is your current class standing?*).

Interaction Control Manipulation

Procedure

Once the participant completed the initial battery of questions, the research assistant told the participant:

Thank you. On the screen is a list of the potential relationships you will be asked additional questions about. Please give me a few minutes to look over your responses and determine which set of questionnaires I am going to have you complete.

After 1 minute, the research assistant asked the participant one of two questions determined in advance via random assignment. These questions resulted in the research assistant either

soliciting the participant's preferences ("Because of the way this study is set up, I have been given the power to choose which questionnaires you complete, so your assignment should be based on my choice, but I will let you tell me the ones you are most interested in. Which two relationships would you be the most interested in completing questions and receiving feedback on?"; solicitation condition), or obtaining follow-up information that was unrelated to the participant's preferences ("How long does it take for you to travel to see [most distant family member] from here?"; control condition). During the minute prior to asking the manipulation question, the research assistant verified the participant provided a name in response to the question identifying the family member with which the participant had the most distant relationship. After asking the manipulation question, there was another one-minute wait before participants completed the questions assigned to them by the research assistant. Participants who did not have their input solicited all completed measures of relationship-specific attachment style (the Experiences in Close Relationships – Relationships Structures Scale; Fraley, Heffernan, Vicary, & Brumbaugh, 2011) and commitment (the Investment Model; Rusbult, Martz, & Agnew, 1998) about their relationship with their most distant family member. This relationship was selected as the target relationship based on pilot data indicating that participants felt relatively neutral about answering questions about this relationship, compared to the other relationship options. The participants who had their input solicited completed the same relationship measures with their second choice of target (see measures below).

Measures

Investment Model. Participants completed a version of the Investment Model Scale (Rusbult et al., 1998) modified to focus on the specific relationship assigned by the research assistant (e.g., my cousin Aaron, my friend Sam). The scale was 17 items broken down into four

subscales: commitment (6 items; e.g., *I am committed to maintaining my relationship with [relationship target].*), satisfaction (4 items; e.g., *I feel satisfied with my relationship with [relationship target].*), alternatives (3 items; e.g., *My alternatives to spending time with [relationship target] are attractive to me.*), and investment (4 items; i.e., *I have put a great deal into my relationship with [relationship target] that I would lose if our relationship ended.*). Participants responded to each item using a 9-point scale (0 = *do not agree at all*; 8 = *agree completely*). See Appendix B for the complete set of items.

Attachment Style. Relationship-specific attachment was assessed using the Experiences in Close Relationships – Relationships Structures questionnaire (Fraley et al., 2011) modified to focus on the specific relationship assigned by the research assistant. This measure was 9-items divided into 2 subscales: avoidance (6 items; e.g., *I prefer not to show [relationship target] how I feel deep down.*) and anxiety (3 items; e.g., *I often worry that [relationship target] doesn't really care about me.*). Participants responded to each item using a 9-point scale (0 = *strongly disagree*; 8 = *strongly agree*). See Appendix C for the complete set of items.

Results Feedback Session

After the participants completed the measures, the research assistant provided the participants with brief feedback on their results (i.e., their predominant relationship-specific attachment style, level of satisfaction, investment, quality of alternatives, and commitment to the specified relationship; see Appendix D), and then they were thanked by the research assistant and told the study had concluded.

Post-Interaction Dependent Measure Assessment

Procedure

After the participants were told the study had concluded, the research assistants asked them if they would complete a brief evaluation of the research assistant's performance while he/she wrapped things up and awarded them credit (see Appendix E). Participants who agreed to complete the evaluation (97.9%) were provided with a performance evaluation card. This performance evaluation card contained the self-reported outcome measures for the study. To help retain participants through the completion of the study, the research assistant emphasized: 1. the participants' help was greatly appreciated, 2. the questionnaire was anonymous, and 3. the questionnaire would only take a few minute to complete. The performance evaluation card included questions assessing the three components of trust, understanding, satisfaction, and interest in working with the research assistant again in the future (see measures below). Additionally, participants were asked to provide ratings of the research assistant on the dimensions of warmth, competence, to allow for these evaluations to be controlled for during statistical analysis (see measures below).

Measures

Faith. Faith was assessed using a 3-item scale based on Rempel et al. (1985). These items were modified to capture participants' evaluations of the research assistant (e.g., *Even though I don't know how the research assistant would react, I would feel comfortable telling him/her anything about myself; even those things of which I am ashamed*; Cronbach's $\alpha = .77$). Participants responded using a 7-point scale (0 = *strongly disagree*; 6 = *strongly agree*). See Appendix F for the complete set of items.

Dependability. Dependability was assessed using a 4-item scale based on Rempel et al. (1985). These items were modified to capture participants' evaluations of the research assistant (e.g., *I could rely on the research assistant to keep the promises he/she makes to me*; Cronbach's

$\alpha = .62$); Participants responded using a 7-point scale (0 = *strongly disagree*; 6 = *strongly agree*). See Appendix F for the complete set of items.

Predictability. Predictability was assessed using a 3-item scale based on Rempel et al. (1985). These items were modified to capture participants' evaluations of the research assistant (e.g., *I would be able to predict how the research assistant is going to act. He/she could be counted on*; Cronbach's $\alpha = .51$). Participants responded using a 7-point scale (0 = *strongly disagree*; 6 = *strongly agree*). See Appendix F for the complete set of items.

Understanding. Understanding was assessed utilizing a single, face valid item¹ from the Abridged Big Five-dimensional Circumplex model (IPIP; Goldberg, 2006; Hofstee, de Raad, & Goldberg, 1992) modified to capture participants' evaluations of the research assistant (i.e., *The research assistant took my interests into account.*). Participants responded using a 7-point scale (0 = *strongly disagree*; 6 = *strongly agree*).

Warmth. Warmth was assessed utilizing a single, face valid item² (Fiske, Cuddy, Glick, & Xu, 2002) modified to capture participants' evaluations of the research assistant (i.e., *The research assistant was warm.*). Participants responded using a 7-point scale (0 = *strongly disagree*; 6 = *strongly agree*).

Competence. Competence was assessed utilizing a single, face valid item³ (Fiske, Cuddy, Glick, & Xu, 2002) modified to capture participants' evaluations of the research assistant (i.e.,

¹ Understanding was intended to be assessed using a 3-item scale IPIP; Goldberg, 2006; Hofstee, de Raad, & Goldberg, 1992; i.e., *The research assistant did not respect my feelings; The research assistant took my interests into account; The research assistant liked to be of service to me.*); however, the scale demonstrated poor inter-item reliability (Cronbach's $\alpha = .48$).

² Warmth was intended to be assessed using a 3-item scale based on Fiske et al. (2002; i.e., *The research assistant was friendly; The research assistant was not well-intentioned; The research assistant was warm*); however, the scale demonstrated poor inter-item reliability (Cronbach's $\alpha = .59$).

³ Competence was intended to be assessed using a 3-item scale based on Fiske et al. (2002; i.e., *The research assistant was competent; The research assistant was not confident; The research assistant was intelligent.*); however, the scale demonstrated poor inter-item reliability (Cronbach's $\alpha = .40$).

The research assistant was competent.). Participants responded using a 7-point scale (0 = *strongly disagree*; 6 = *strongly agree*).

Satisfaction. Satisfaction with the interaction with the research assistant was assessed utilizing a single, face valid item modeled after one of the satisfaction subscale items from the Investment Model Scale (Rusbult, Martz, & Agnew, 1998; i.e. *I feel satisfied with my interaction with the research assistant.*). Participants responded using a 7-point scale (0 = *strongly disagree*; 6 = *strongly agree*).

Future Intentions. Participants' willingness to interact with the research assistant again in the future was assessed utilizing a single, face valid item (i.e. *I would choose to work with this research assistant again in a future study.*). Participants responded using a 7-point scale (0 = *strongly disagree*; 6 = *strongly agree*).

Post-Interaction Trust-based Behavior Assessment

After participants completed the performance evaluation card, the research assistant returned and informed them that he/she was unable to award them credit due to technical issues with the research participation credit system, but that he or she would ensure they were awarded credit for their participation in the next 24 hours (see Appendix E). To assess trust-based behavior, the research assistant also told participants they could to take a business card for the lab supervisor and send him an email if they were concerned about receiving their credit. Participants were then thanked for their time, dismissed from the study, and given to an opportunity to take a business card while they were collecting their belongings. Taking a business card for the lab supervisor indicated distrust in the research assistant. All participants were awarded credit 24 hours after participating. To ensure the participants did not feel any social pressure when deciding whether or not to take a business card, the cards were placed in a

readily accessible location in the room where they left their belongings, separate from where the research assistant was located at the time of the participants' departure.

Study 1 Results

Overall Study & Condition Descriptive Statistics

Table 1 provides the means and standard deviations for participants' ratings of competence, warmth, faith, dependability, predictability, understanding, satisfaction, and future intentions, both overall for the study and for each condition. Additionally, *t*-tests were used to test for difference between conditions. There were no statistically significant differences between the condition where the controlling partner solicited input and the condition where the controlling partner did not solicit input on any of the assessed variables. Table 2 provides the bivariate correlations for the model variables.

Predicting Trust-Based Behavior

Table 3 provides the logistic regression odds ratios for each trust component predicting card taking. Faith (OR = .635, $p = .001$), but not dependability (OR = .723 $p = .10$) or predictability (OR = .848 $p = .27$), predicted card talking at a statistically significant level. The odds ratio below 1 indicates higher ratings of faith were associated with not taking a business card.

Effect of Condition on Each Trust Component

Univariate analysis of variance tests were run to determine whether participants in different conditions reported different levels of the trust components, when controlling for warmth and competence. For all three components of trust, the overall model was significant (faith: $F(3, 170) = 18.93$, $MSE = 1.18$, $p < .001$; dependability: $F(3, 167) = 13.27$, $MSE = .50$, $p < .001$; predictability: $F(3, 167) = 9.29$, $MSE = .94$, $p < .001$). However, for none of the three

components of trust was there a significant main effect for condition after controlling for warmth and competence (faith: $F(1, 170) = .67, p = .41$; dependability: $F(1, 167) = .39, p = .53$; predictability: $F(1, 167) = 1.13, p = .29$).

Testing Understanding as a Mediator

A priori, I predicted that building faith requires that the dependent partner felt that the controlling partner took his or her interests into account. As such, I tested understanding as a mediator of the effect between condition and the three components of trust. The effects of warmth and competence were statistically controlled by entering them into the simple mediation model as covariates. Analyses were conducted using the PROCESS (v2.13) macro developed for SPSS (v22) and the procedures described by Hayes (2013). Understanding, warmth, and competence were mean-centered before use in mediation analyses. Condition was included in analyses as a dichotomous variable (0 = control condition, 1 = solicitation condition). P-values $< .05$ were interpreted as statistically significant.

Faith. A mediation analysis conducted using ordinary least squares path analysis indicated that condition indirectly influenced ratings of faith through its effect on feelings of understanding. As can be seen in Figure 1 and Table 4, participants who had their input solicited rated the research assistants as more understanding than participants who did not have their input solicited ($a = .462, p = .019$), and participants who rated the research assistants as more understanding reported higher ratings of faith in the research assistants ($b = .321, p < .001$). A bias-corrected bootstrap confidence interval for the indirect effect ($ab = .149$) based on 10,000 bootstrap samples was entirely above zero (.036 to .299). There is no evidence condition influenced reported ratings of faith independent of its effect on understanding ($c' = -.284, p = .070$). Warmth is a significant covariate both in the model predicting understanding ($\beta = .674,$

$p < .001$) and in the model predicting faith ($\beta = .391, p < .001$). However, competence is only a significant in the model predicting faith ($\beta = .123, p < .001$).

Dependability. A mediation analysis conducted using ordinary least squares path analysis indicated that condition indirectly influenced ratings of dependability through its effect on feelings of understanding. As can be seen in Figure 2 and Table 5, participants who had their input solicited rated the research assistants as more understanding than participants who did not have their input solicited ($a = .450, p = .025$), and participants who rated the research assistants as more understanding reported higher ratings of dependability for the research assistants ($b = .108, p = .010$). A bias-corrected bootstrap confidence interval for the indirect effect ($ab = .049$) based on 10,000 bootstrap samples was entirely above zero (.007 to .131). There is no evidence condition influenced reported ratings of dependability independent of its effect on understanding ($c' = -.117, p = .282$). Warmth is a significant covariate both in the model predicting understanding ($\beta = .689, p < .001$) and in the model predicting dependability ($\beta = .206, p = .002$). However, competence is only a significant in the model predicting dependability ($\beta = .206, p = .002$).

Predictability. A mediation analysis conducted using ordinary least squares path analysis indicated that condition indirectly influenced ratings of predictability through its effect on feelings of understanding. As can be seen in Figure 3 and Table 6, participants who had their input solicited rated the research assistants as more understanding than participants who did not have their input solicited ($a = .475, p = .018$), and participants who rated the research assistants as more understanding did reported higher ratings of predictability in the research assistants ($b = .121, p = .036$). A bias-corrected bootstrap confidence interval for the indirect effect ($ab = .058$) based on 10,000 bootstrap samples was entirely above zero (.004 to .179). There is no

evidence condition influenced reported ratings of predictability independent of its effect on understanding ($c' = -.215, p = .152$). Warmth and competence were is only a significant covariate in the model predicting understanding ($\beta = .658, p < .001$), and competence is only a significant in the model predicting predictability ($\beta = .313, p < .001$).

Study 1 Discussion

Study 1 explored trust in the context of a one-off asymmetric dependence interaction, with participants being dependent on the research assistants for their outcomes. The first part of this study focused on identifying the component of trust that was most predictive of the expression of trust-based behavior. I predicted that in this type of interaction, individuals' levels of faith would be more predictive of trust-based behavior than their levels of dependability and predictability because the interaction provided a concrete experience on which the dependent partner could base his or her evaluation of faith. Due to interactions occurring only at a single time point, evaluations of dependability (i.e., whether or not a person can be counted on) and predictability (i.e., whether a person behaves as expected in the future) could not be based on actual experience, but rather on superficial cues such as warmth and competence. The results of Study 1 suggests faith was the best predictor of trust-based behavior, with faith predicting the lowest odds of taking a business card. Thus, participants who provided higher ratings of faith were more likely to express behavior (i.e., not taking a supervisor's business card) that indicted they trusted the research assistants to follow through on doing what they said they were going to do.

The second part of this study focused on determining whether the controlling partner soliciting input from a dependent partner would increase ratings of faith. In the control condition, the dependent partner completed a battery of measures without being given an opportunity to

provide input into what type of relationship he or she wanted to learn more about. In the solicitation condition, the controlling partner solicited the preferences of the dependent partner and then assigned the dependent partner to complete a battery of measures based on this input. I predicted that this solicitation would result in the dependent partner providing higher ratings of faith than if this solicitation had not occurred, but only if the dependent partner felt that his or her interests were taken into account by the controlling partner. The results of this study did not find soliciting input by itself to be a significant predictor of any of the components of trust. However, soliciting input was found to have a significant indirect effect on faith through its effect on the dependent partner feeling the controlling partner took his or her interests into account. This supported the prediction that feelings of understanding would mediate the relationship between soliciting input and faith. Additionally, in line with theory, the greatest predictors of dependability and predictability were the superficial evaluative components of warmth and competence.

All together, Study 1 provides support for two key points. First, faith is the component of trust most impacted by interpersonal exchanges in one-off asymmetric dependence interactions. Second, the controlling partner allowing the dependent partner to provide input in this type of partner-controlled interaction increases ratings of faith, when the dependent partner feels his or her interests are taken into account by the controlling partner.

Study 2

Study 2 had three primary goals: (1) Replicate the finding that the dependent partner's rating of faith is more predictive of his or her trust-based behavior than his or her ratings of dependability or predictability in a one-off asymmetric dependence interaction. (2) Test whether the dependent partner's input has to be reflected in the controlling partner's decision in order for

soliciting input to increase the dependent partner's rating of faith. (3) Investigate whether providing an externally attributed explanation for the controlling partner's decision can help to maintain the increase in faith attained from soliciting input, if the dependent partner's input is not reflected in the controlling partner's decision. I predicted soliciting input would only increase faith when the dependent partner's input was reflected in the controlling partner's decision, unless the controlling partner provided an externally-attributed explanation justifying his or her decision. In the case of providing an explanation, I expected reported faith levels to be the same as they were for interactions where the dependent partner's input was reflected in the controlling partner's decision.

Method

Participants

There were 186 undergraduates recruited from the Psychology Department participant pool who initiated the study, with 184 (Choice Given condition = 62; No Explanation condition = 61; Explanation Given condition = 61) being included in the analyses and 2 excluded for not completing the performance evaluation. A priori power calculations suggested at least 180 (60 per condition) participants were needed for the study to have sufficient (power = .80) to detect effects of a moderate size (*Cohen's f* = .25) using an ANCOVA (Numerator *df* = 3; Groups = 3; Covariates = 2). Demographically, participants were 18-23 years old ($M = 19.14$, $SD = 1.05$), 62.5% female, 60.3% Freshman (22.8% Sophomore, 17.6% Junior, 7.6% Senior), and identified predominately as White (57.1%; 7.1% Black, 17.9% Asian, 16.3% Hispanic/Latino, 1.1% other).

Measures

Study 2 utilized the same measures described in Study 1.

Procedures

Participants initiated the study and completed the initial battery of questions following the same procedure used in Study 1. As in Study 1, once the participants completed the initial battery of questions, the research assistant told participants:

Thank you. On the screen is a list of the potential relationships you will be asked additional questions about. Please give me a few minutes to look over your responses and determine which questionnaire I am going to have you complete.

After 1 minute of analysis all participants had their input solicited by the research assistant (“Which two relationships would you most like to have assessed?”). The research assistant noted the participant’s response, and then the participant was randomly assigned to one of three conditions: (1) the controlling partner’s decision reflected the dependent partner’s input (Choice Given condition; i.e., the Input condition from Study 1), (2) the controlling partner’s decision did not reflect the dependent partner’s input and no explanation was given (No Explanation condition), (3) the controlling partner’s decision did not reflect the dependent partner’s input, but an externally attributed explanation detailing that constraints impacting assignment was given (Explanation Given condition):

I am sorry, but it appears that too many people with characteristics similar to you have participated in this study for me to allow you to complete the diagnostic questionnaires for the two relationships you wanted. It appears that you are a better fit for the diagnostic questionnaire for [non-choice relationship attitude object] instead.

For the condition where the controlling partner’s decision reflected the dependent partner’s input, participants were assigned to complete a measure of attachment style and an Investment Model measure using the participants’ second choice of relationship as the attitude object. For the conditions where the controlling partner’s decision did not reflect the dependent

partner's input, participants were assigned to complete a measure of attachment style and an Investment Model measure using the participants' most distant family member as the attitude object, unless that relationship was indicated as one of the participants' top 2 choices, in which case participants were assigned to complete a measure of attachment style and an Investment Model measure using the participants' closest family member as the attitude object.

Once the participants completed the assigned measures, the research assistant provided the participants with brief feedback on their results, dismissed them from the study, solicited the completion of the performance evaluation, and created a situation to assess trust-based behavior following the procedures outlined in Study 1.

Study 2 Results

Overall Study & Condition Descriptive Statistics

Table 7 provides the means and standard deviations for participants' rating of competence, warmth, faith, dependability, predictability, understanding, satisfaction, and future intentions, both overall for the study and for each condition. Additionally, ANOVA was used to test for difference between conditions. There was a statistically significant difference between the conditions on understanding ($F(2, 179) = 5.11, p = .007$). Post hoc analyses using Tukey HSD indicated that the mean understanding ratings provided when the controlling partner's decision did not reflect the dependent partner's input and no explanation was given were lower than the mean ratings for understanding provided both when the controlling partner's decision reflected the dependent partner's input (Mean Difference = $-.738, p = .03$) and when the controlling partner's decision did not reflect the dependent partner's input, but an explanation was given (Mean Difference = $-.838, p = .01$). There were no statistically significant differences

between conditions for any of the other assessed variables. Table 8 provides the bivariate correlations for the model variables.

Predicting Trust-Based Behavior

Table 9 provides the logistic regression odds ratios for each trust component predicting card taking. None of the components of trust were statistically significant predictors of card taking (Faith: OR = .806, 95% CI = .646 – 1.006, $p = .06$; Dependability: OR = .806, 95% CI = .555 – 1.172, $p = .26$; Predictability: OR = .920, 95% CI = .696 – 1.215, $p = .56$).

Effect of Condition on Each Trust Component

Univariate analysis of variance tests were run to determine whether participants in different conditions reported different levels of the trust components, when controlling for warmth and competence. For all three components of trust, the overall model was significant (faith: $F(4, 167) = 12.98$, MSE = 1.42, $p < .001$; dependability: $F(4, 166) = 14.23$, MSE = .47, $p < .001$; predictability: $F(4, 171) = 9.47$, MSE = .92, $p < .001$). However, for none of the three components of trust was there a significant main effect for condition after controlling for warmth and competence (faith: $F(2, 167) = .50$, $p = .61$; dependability: $F(2, 166) = .32$, $p = .73$; predictability: $F(2, 171) = 1.52$, $p = .22$).

Testing Understanding as a Mediator

A priori, I predicted that building faith requires that the dependent partner felt that the controlling partner took his or her interests into account. As such, I tested understanding as a mediator of the effect between condition and the three components of trust. The effects of warmth and competence were statistically controlled by entering them into the simple mediation model as covariates. Analyses were conducted using the PROCESS (v2.13) macro (Hayes, 2013) developed for SPSS (v22) and the procedures described by Hayes and Preacher (2014).

Understanding, warmth, and competence were mean-centered before use in mediation analyses. Condition was included in analyses as two dummy coded variables (Explanation Given: 0 = Choice Given condition, 1 = Explanation Given condition; No Explanation: 0 = Choice Given condition, 1 = No Explanation condition). P-values $< .05$ were interpreted as statistically significant.

Faith. A mediation analysis conducted using ordinary least squares path analysis indicates that there is a relative indirect effect for condition on ratings of faith through its effect on feelings of understanding. As can be seen in Figure 4 and Table 10, participants in the No Explanation condition provided lower ratings of understanding than participants in the Choice Given condition ($a_1 = -.738, p = .004$), and participants who rated the research assistants as more understanding reported higher ratings of faith in the research assistants ($b = .187, p = .007$). A bias-corrected bootstrap confidence interval for the relative indirect effect ($a_1b = -.138$) based on 10,000 bootstrap samples was entirely below zero (-.346 to -.029). There is no evidence the No Explanation condition influenced reported ratings of faith independent of its effect on understanding ($c_1' = .012, p = .959$). Participants in the Explanation Given condition did not rate the research assistants as more understanding than participants in the Choice Given condition ($a_2 = .121, p = .630$). Additionally, a bias-corrected bootstrap confidence interval for the relative indirect effect ($a_2b = .023$) based on 10,000 bootstrap samples was not entirely above zero (-.062 to .162), and there is no evidence the Explanation Given condition influenced reported ratings of faith independent of its effect on understanding ($c_2' = .074, p = .737$). Warmth is a significant covariate both in the model predicting understanding ($\beta = .442, p < .001$) and in the model predicting faith ($\beta = .456, p < .001$). However, competence is only a significant in the model predicting understanding ($\beta = .204, p = .027$).

Dependability. A mediation analysis conducted using ordinary least squares path analysis indicates that there is a relative indirect effect for condition on ratings of dependability, through its effect on feelings of understanding. As can be seen in Figure 5 and Table 11, participants in the No Explanation condition rated the research assistants as less understanding than participants in the Choice Given condition ($a_1 = -.621, p = .011$), and participants who rated the research assistants as more understanding reported higher ratings of dependability for the research assistants ($b = .173, p = <.001$). A bias-corrected bootstrap confidence interval for the relative indirect effect ($a_1b = -.108$) based on 10,000 bootstrap samples was entirely below zero (-.215 to -.038). There is no evidence the No Explanation condition influenced reported ratings of dependability independent of its effect on understanding ($c_1' = .091, p = .464$). Participants in the Explanation Given condition did not rate the research assistants as more understanding than participants in the Choice Given condition ($a_2 = .136, p = .577$). Additionally, a bias-corrected bootstrap confidence interval for the relative indirect effect ($a_2b = .024$) based on 10,000 bootstrap samples was not entirely above zero (-.053 to .115), and there is no evidence the Explanation Given condition influenced reported ratings of dependability independent of its effect on understanding ($c_2' = .056, p = .647$). Warmth is a significant covariate both in the model predicting understanding ($\beta = .432, p < .001$) and in the model predicting dependability ($\beta = .213, p < .001$). However, competence is only a significant in the model predicting understanding ($\beta = .253, p = .006$).

Predictability. A mediation analysis conducted using ordinary least squares path analysis indicates that there is a relative indirect effect for condition on ratings of predictability, through its effect on feelings of understanding. As can be seen in Figure 6 and Table 12, participants in the No Explanation condition rated the research assistants as less understanding than participants

in the Choice Given condition ($a_1 = -.733, p = .003$), and participants who rated the research assistants as more understanding reported higher ratings of predictability for the research assistants ($b = .090, p = .107$). A bias-corrected bootstrap confidence interval for the relative indirect effect ($a_1b = -.066$) based on 10,000 bootstrap samples was entirely below zero (-.180 to -.001). There is no evidence the No Explanation condition influenced reported ratings of predictability independent of its effect on understanding ($c_1' = .020, p = .912$). Participants in the Explanation Given condition did not rate the research assistants as more understanding than participants in the Choice Given condition ($a_2 = .131, p = .595$). Additionally, a bias-corrected bootstrap confidence interval for the relative indirect effect ($a_2b = .012$) based on 10,000 bootstrap samples was not entirely above zero (-.021 to .092), and there is no evidence the Explanation Given condition influenced reported ratings of predictability independent of its effect on understanding ($c_2' = .231, p = .195$). Warmth is a significant covariate both in the model predicting understanding ($\beta = .442, p < .001$) and in the model predicting predictability ($\beta = .192, p = .008$). Additionally, competence is a significant covariate both in the model predicting understanding ($\beta = .209, p = .020$) and in the model predicting predictability ($\beta = .225, p < .001$).

Study 2 Discussion

In Study 2, I investigated whether the effect found in Study 1 (i.e., the controlling partner soliciting input from the dependent partner results in higher ratings of faith) was contingent upon the controlling partner's decision reflecting the dependent partner's input. In this second study, each dependent partner had his or her input solicited by the controlling partner, and then the controlling partner's decision was randomly assigned to either: a) reflect the dependent partner's input, b) not reflect the dependent partner's input, but come with an externally-attributed

explanation as to why not, or c) not reflect the dependent partner's input and come with no explanation as to why not. I predicted that soliciting input would only increase faith when the dependent partner's input was reflected in the controlling partner's decision, unless the controlling partner provided an externally-attributed explanation justifying his or her decision. In the case of providing an explanation, I expected reported faith levels to be the same as they were for interactions where the dependent partner's input was reflected in the controlling partner's decision. Additionally, I expected to replicate the findings from Study 1 suggesting that faith is the best predictor of trust-based behavior. This study did not replicate those findings. In this study, faith's relationship with trust-based behavior was trending in the predicted direction, but none of the components of trust were significant predictors of card taking. However, as predicted, the results of Study 2 suggest that the dependent partner's input does need to be reflected in the controlling partner's decision in order for soliciting input to have a positive effect on faith, unless an externally-justified explanation is provided. When the controlling partner's decision did not reflect the dependent partner's input, and the controlling partner did not provide any explanation for his or her decision, the dependent partner felt less like the controlling partner took his or her interests into account, and a significant relative indirect effect of condition on ratings of faith.

General Discussion

This work set out to investigate trust in the context of asymmetric dependence relationships, with a specific emphasis on the components of trust that are most impacted by exchanges in initial or one-off interactions. I predicted faith would be the component of trust most associated with trust-based behavior, and in Study 1, this was supported. Ratings of faith were a better predictor of trust-based behavior than ratings of predictability and dependability. Additionally, this work explored the effect of the controlling partner soliciting input from the

dependent partner. I predicted that the controlling partner soliciting input from the dependent partner (i.e., shifting the relationship dynamic from exclusively partner-controlled to joint-controlled) would result in the dependent partner providing higher ratings of faith than when input was not solicited (i.e., main the relationship as exclusively partner-controlled), if the dependent partner felt that the controlling partner took his or her interests in to account. The findings of Study 1 supported this prediction, with soliciting input indirectly increasing ratings of faith, through its effect on increasing the dependent partner's feelings that the controlling partner took his or her interests into account when making his or her decision.

Study 2 sought to investigate whether the dependent partner's input needed to be reflected in controlling partner's decision in order for soliciting input to be effective in increasing faith. I predicted that soliciting input would only increase faith when the dependent partner's input was reflected in the controlling partner's decision, unless the controlling partner provided an externally-attributed explanation justifying his or her decision. In the case of providing an explanation, I expected reported faith levels to be the same as they were for interactions where the dependent partner's input was reflected in the controlling partner's decision. The results from study 2 suggest not having the input from the dependent partner reflected in the controlling partner's decision, and then not providing an explanation for this outcome, has a negative effect on faith. Specifically, the No Explanation condition had a negative relative indirect effect on ratings of faith compared to the Choice Given condition, where as there was no difference in the relative indirect effects on ratings of faith between the Explanation Given and the Choice Given conditions. Additionally, when the controlling partner did not provide the dependent partner with an explanation for why his or her input was not reflected his or her decision, the dependent partner was more likely to feel that his or her input was not taken into account than in the other

two conditions. These findings indicate that soliciting input and then not having this input reflected in the controlling partner's decision has a negative effect on faith, unless an explanation is provided. These findings also suggest the dependent partner feels less like his or her input was taken into account in making this decision if no explanation is provided.

Implications

This work adds to the literature in three key ways. First, it provides a laboratory paradigm for testing trust in an asymmetric dependence situation where the controlling partner is in a position of legitimate power and authority. Most previous work studying trust in the laboratory has utilized paradigms that create power differentials in situ by establishing relational rules and assigning participants to either the controlling partner or dependent partner roles (e.g., Cox, Ostrom, Sadiraj, & Walker, 2013; Kanagaretnam, Mestelman, Nainar, & Shehata, 2012). While this type of artificial power dynamic can be useful for studying some types of phenomenon (e.g., investment behavior, prosocial behavior), the arbitrarily created power differential between otherwise relatively equal people makes for a poor paradigm for studying relationship processes where legitimate power and authority are known to have an influence. For example, many people trust medical providers and scientists simply because they have been identified as experts in a specific domain (Eiser, Stafford, Henneberry & Catney, 2009). Because the research assistants do have legitimate power and authority, this work provides paradigm for studying processes in an asymmetric dependence relationship that more closely represents the dynamics of many common social interactions (e.g., client-service provider, student-professor, patient-physician, employee-supervisor).

Second, this study explores the initial development and strengthening of trust in a one-off, asymmetric dependence interaction. This type of interaction is common for many service

providers who are interacting with a client for the first time. For example, doctors, lawyers, mechanics, computer technicians, and many other types of service providers garner trust and power because of their skills and expertise. However, over the last couple decades, business (Morgan & Hunt, 1994), medicine (Hall, Dugan, Zheng, & Mishra, 2001), and other service industries have highlighted the need to actively build trust during initial contact with their clients in order to improve service outcomes and develop continued relationships. One common approach used by providers to build trust has been to make the client feel like they are a part of the decision making process and have control over their outcomes (e.g., Lee & Lin, 2010); however, the providers' positions and expertise means that they often retain control over the final course of action, and the best way forward may not be what their clients had hoped, potentially damaging the trust they are trying to build with their clients. This research provides a controlled, experimental way to test the consequences of permitting the clients to feel like they have some control over their outcomes. It suggests, even when clients are not able to attain their desired outcome, soliciting their input during the decision making process so that they feel like their interests are understood provides one way to maintain and increase trust, as long as explanations are provided when they are not given their desired outcome. Thus, professionals and service providers who are tasked with establishing trusting relationships with their clients would benefit from training that teaches them to solicit input from their clients, and provide them with explanations when they can not be given what they want.

Finally, this work provides support for faith being the component of trust that is most impacted by behavior expressed during one-off, asymmetric dependence interactions. The role of faith as a key component of trust in initial interactions has previously been established through work highlighting its role in interaction initiation and perpetuation (Rempel et al., 1985; Simpson,

2007b); however, the current work demonstrates the impact of a single action in a diagnostic situation (i.e., permitting joint-control in a typically partner-controlled interaction) on feelings of faith in this context. Additionally, the current work identifies feelings of faith as being the most predictive of trust-based behavior after these types of one-off interactions, highlighting one route for influencing trust-based behavior during these brief interactions.

Strengths

One of the primary strengths of this work is that it is an experiment high in ecological validity. The paradigm used in this work employs 3 common undergraduate experiences (i.e., research participation, performance evaluation, technology malfunction) to create a situation that is controlled and manipulatable, without being overly contrived. Thus, the psychological experience for the participant was likely very similar to the experience created by any other lab-based psychology study.

The ecological validity of the psychological experience of this study is highlighted by research participation in-of-itself being a naturally occurring asymmetric dependence relationship. By virtue of agreeing to participate in research, participants choose to enter a relationship where they allow the researchers to decide how they are treated. The participants have the ability to choose which studies they participated in, and they have the ability to forgo participating in a particular study, but once participants consent to participate in any study, they cede much of their control over what happens to them to the researchers. This naturally creates an asymmetric dependence situation that also acts as a diagnostic situation informing trust. Participants expect to be treated well, but there is no guarantee, so choosing to participate requires some amount faith in the researchers. Once participants begin the study, their experience

provides them with diagnostic information that allows them to determine whether or not their faith was well placed.

This work also has the strengths of quantifying both trust and trust-based behavior, and assessing these constructs occurring through methods that were divorced from the study in which the participants thought they were participating. For example, trust was assessed via self-reported ratings of faith, predictability, and dependability captured through performance evaluations. Participants overwhelmingly agreed to complete the performance evaluations, but this was optional, and participants believed their feedback to be anonymous and confidential. Additionally, the trust-based behavior was assessed by tracking whether or not participants took a business card for the laboratory supervisor. The participants had a vested interest in ensuring that the credit was properly recorded given the credit counted towards their course grade and they had already invested their time in participating. By allowing participants to take a business card, in private, seemingly without the research assistant knowing, the participants were given an opportunity to express a trust-based behavior that had real, personal implications. In the end, this allows for the current work to address both the introspective reports of trust, and the manifestation of trust in behavior.

Limitations

Whereas this study has many strengths, it also has several limitations. First, the method of soliciting self-reported trust through the use of anonymous, confidential evaluation cards at the conclusion of the study was ecologically valid, but it limits this study because of the participants' lack of incentive for completing an honest, thoughtful evaluation. The participants were not aware that the evaluation of the research assistant was in any way connected to the purpose of the study, and they were asked to complete the evaluation after they were told the

study had concluded. Thus, it is likely that many participants completed the evaluations in haste. Additionally, given the use of performance evaluations in some contexts to inform benefit and reprimand decisions, the participants may have been biased towards giving the research assistants high ratings on the evaluations, unless they felt like they had a poor experience. This bias would jeopardize the validity of the self-reports, and result in potential ceiling effects in the data. Based on the descriptive statistics for the many of the measures, there is reason to believe that this process may have had an influence on this study. However, this study did assess trust-based behavior in addition to self-reported trust, with self-reported ratings of faith, predictability, and reliability, being associated with trust-based behavior as theoretically predicted. Additionally, ceiling effects and biased self-reports would have decreased the variability in the data both within and across conditions, reducing effect sizes. Despite this, this study resulted in findings that were both consistent with theory, and statistically significant.

Second, conceptualizing taking a supervisor's business card as reliable measure of trust-based behavior is a limitation because the nature of the situation encouraged the participants to take a business card, regardless of how they felt about the research assistant. The participants in this study were participating for class credit, so unless they had high levels of faith in the research assistants, or they were so apathetic about their grade that they did not care, it was likely that participants would take a business card because it was a low-effort way to ensure they had someone to contact if credit was not awarded. This may have especially been an issue in Study 2 given that it was conducted during the second half of the academic semester, a period in time where students tend to be more attentive to ensuring they are being given the credit they earned, while Study 1 was conducted during the first half of the academic semester. This difference is supported by the data, with 38% of students in Study 1 taking a card, compared to 47% in Study

2. Thus, it is likely that this measure was not very sensitive to the level of trust participants had in the research assistants. However, as with the self-reported ratings of trust, this limitation would primarily reduce the size of effects in this study, but significant, theoretically predicted results were still found.

Third, another limitation to this work is that across both studies the average ratings of research assistant warmth, competence, and trust were all high. This is beneficial because the homogeneity among the research assistants minimized the influence of their individual traits on this study. However, it also means that this work may be limited to speaking to interactions that involve controlling partners who are perceived as warm, competent, and trustworthy. To address this potential issue, warmth and competence were statically controlled for in the analyses, thus the findings of this study stand, theoretically, independent of their effects, but it is still possible the findings of this study only hold when warmth and competence are both relatively high.

Future Directions

Whereas the current study provides an initial basis for understanding the role of faith and the influence of permitting joint control in asymmetric dependence interactions, further research is needed to address some of the unanswered questions. For example, do the findings of this study hold if the decision made by the controlling partner results in a negative experience for the dependent partner? In all of the conditions tested in this work, the dependent partner was not asked to do something aversive by the controlling partner. It is possible that having the controlling partner solicit input and then, without explanation, assign an unwanted, tedious or invasive task could lower levels of faith in the research assistant. However, this is only speculation. Future work could manipulate the aversiveness of the outcomes to test whether this does have an effect on ratings of faith.

Additionally, the dependent partner was never guaranteed his or her input would impact the decision made by the controlling partner, or asked how much weight he or she felt like his or her input would carry in the controlling partner's decision making process. Thus, it is not clear whether the participants felt like they were actually being permitted to have some control in the situation. The findings of this study suggest simply asking the dependent partner to provide input in a situation where he or she typically would not be given that opportunity is enough to increase faith, if it results in the dependent partner feeling like his or her input is being taken into account. However, it may be important for people to know their input is actually being considered. In this study, the research assistants took time and input information into the computer before asking participants to complete their assigned measures. This may have conveyed deliberation, and thus, may have impacted the outcomes of this study. If the protocol did not require the research assistants to take time to input information, participants might have felt like the solicitation was disingenuous, negatively impacting feelings of understanding and trust. Future research would benefit from manipulating participants' perceptions of amount of consideration given to their input, especially given the that the dependent partner feeling his or her interests were being taken into account was a key mediator in this study.

Finally, this work solely operationalized permitting joint control as soliciting input. This leaves open the question, do these findings hold when joint control is permitted through other means (e.g., collaborative decision making, or voting)? Simply asking the dependent partner what he or she would like, or how he or she wants to be treated is a common way for the controlling partner to permit joint control in everyday life, but the amount of joint control this method allows is completely reliant upon the controlling partner taking the information and actually incorporating it into the decision making process. Methods of allowing joint control

such as permitting voting, or collaboratively making decisions through negotiation provide the dependent partner with much more formal means by which to ensure his or her desires are taken into account. It would be prudent for future research to test whether the findings of this study are applicable to permitting joint control in one-off asymmetric dependence relationships in general, or whether these findings only apply to this specific method of permitting joint control.

Conclusion

Overall, this work indicates that faith is the component of trust in one-off asymmetric dependence interactions that is most associated with trust-based behavior, and that this component of trust can be influenced by having the controlling partner solicit input from the dependent partner before determining the outcome of the dependent partner. This permission of joint control increases the dependent partner's ratings of faith, when the dependent partner feels like his or her input is taken into account in the controlling partner's decision. However, if this input is not reflected in the controlling partner's decision, the controlling partner needs to provide an explanation for his or her decision in order for soliciting input to have a positive effect on ratings of faith. Thus, ensuring the dependent partner feels like his or her interests is being taken into account by controlling partner (i.e., by soliciting their input), may increase dependent partners' trust in asymmetric dependence relationships, even when the controlling partner may not be able to give the dependent partner the outcome that he or she would prefer, as long as an explanation is provided.

Table 1. Overall study and condition descriptive statistics.

	Overall M (SD) / %	Control Condition M (SD) / %	Input Condition M (SD) / %	<i>t</i> /OR χ^2	<i>p</i>
Competence	5.46 (1.10)	5.53 (.79)	5.39 (1.35)	<i>t</i> (1, 142.2) = .85	.40
Warmth	5.46 (.95)	5.39 (.98)	5.34 (.93)	<i>t</i> (1, 179) = .34	.74
Faith	4.49 (1.24)	4.58 (1.20)	4.41 (1.28)	<i>t</i> (1, 177) = .94	.35
Dependability	5.20 (.78)	5.27 (.78)	5.14 (.78)	<i>t</i> (1, 175) = 1.15	.25
Predictability	4.99 (1.04)	5.10 (1.03)	4.89 (1.04)	<i>t</i> (1, 174) = 1.39	.17
Card Taken	38% (68/178)	41% (35/86)	36% (33/92)	OR = .82 $\chi^2 = .44$	.51
Understanding	4.92 (1.45)	4.72 (1.57)	5.11(1.31)	<i>t</i> (1, 180) = -1.81	.07
Satisfaction	5.48 (.91)	5.43 (1.02)	5.52 (.80)	<i>t</i> (1, 180) = -.66	.51
Future Intentions	5.55 (.82)	5.51 (.93)	5.59 (.71)	<i>t</i> (1, 168) = -.62	.53

Table 2. Bivariate correlations for Study 1 variables.

	Competence	Warmth	Faith	Dependability	Predictability	Card Taken	Understanding
Competence	-						
Warmth	.089	-					
Faith	.193*	.472*	-				
Dependability	.278*	.373*	.668*	-			
Predictability	.350*	.181*	.328*	.434*	-		
Card Taken	-.005	-.099	-.267*	-.125	-.084	-	
Understanding	.117	.460*	.510*	.336*	.243*	-.123	-

Note. The asterisks (*) identify significant ($p < .05$) Pearson's R correlation coefficients.

Table 3. Logistic regression odds ratios for each trust component predicting card taking.

	OR	95% CI Lower	95% CI Upper	<i>p</i>	Cox & Snell R^2
Faith	.635	.489	.823	.001	.070
Dependability	.723	.489	1.07	.104	.015
Predictability	.848	.633	1.14	.270	.007

Note. OR = Odds Ratio. OR 95% confidence intervals that do not contain 1 are statistically significant.

Table 4. Coefficients for the simple mediation model predicting faith with warmth and competence as covariates.

Antecedent	Consequent							
	M (Understanding)			Y (Faith)				
	Coeff.	SE	<i>p</i>	Coeff.	SE	<i>p</i>		
X (Condition)	<i>a</i>	.462	.196	.019	<i>c'</i>	-.284	.156	.070
M (Understanding)		----	----	----	<i>b</i>	.321	.060	<.001
C ₁ (Warmth)	<i>f</i> ₁	.674	.104	<.001	<i>g</i> ₁	.391	.091	<.001
C ₁ (Competence)	<i>f</i> ₂	.118	.089	.186	<i>g</i> ₂	.123	.070	<.001
Constant	<i>i</i> ₁	-.250	.138	.073	<i>i</i> ₂	4.619	.109	<.001
$R^2 = .230$				$R^2 = .359$				
$F(3, 170) = 16.88, p < .001$				$F(4, 169) = 23.69, p < .001$				

Note. All coefficients are unstandardized. Warmth, competence, and understanding are mean-centered. Condition: 0 = Control condition, 1 = Input condition.

Table 5. Coefficients for the simple mediation model predicting dependability with warmth and competence as covariates.

Antecedent	Consequent							
	M (Understanding)			Y (Dependability)				
		Coeff.	SE	<i>p</i>		Coeff.	SE	<i>p</i>
X (Condition)	<i>a</i>	.450	.200	.025	<i>c'</i>	-.117	.108	.282
M (Understanding)		----	----	----	<i>b</i>	.108	.041	.010
C ₁ (Warmth)	<i>f</i> ₁	.689	.107	<.001	<i>g</i> ₁	.206	.064	.002
C ₁ (Competence)	<i>f</i> ₂	.114	.090	.207	<i>g</i> ₂	.206	.064	.002
Constant	<i>i</i> ₁	-.235	.140	.096	<i>i</i> ₂	5.270	.076	<.001
$R^2 = .230$				$R^2 = .225$				
$F(3, 167) = 16.55, p < .001$				$F(4, 166) = 12.02, p < .001$				

Note. All coefficients are unstandardized. Warmth, competence, and understanding are mean-centered. Condition: 0 = Control condition, 1 = Input condition.

Table 6. Coefficients for the simple mediation model predicting predictability with warmth and competence as covariates.

Antecedent	Consequent							
	M (Understanding)			Y (Predictability)				
	Coeff.	SE	<i>p</i>	Coeff.	SE	<i>p</i>		
X (Condition)	<i>a</i>	.475	.198	.018	<i>c'</i>	-.215	.150	.152
M (Understanding)		----	----	----	<i>b</i>	.121	.057	.036
C ₁ (Warmth)	<i>f</i> ₁	.658	.105	<.001	<i>g</i> ₁	.058	.087	.507
C ₁ (Competence)	<i>f</i> ₂	.150	.097	.121	<i>g</i> ₂	.313	.072	<.001
Constant	<i>i</i> ₁	-.274	.141	.053	<i>i</i> ₂	5.093	.105	<.001
$R^2 = .230$				$R^2 = .166$				
$F(3, 167) = 16.62, p < .001$				$F(4, 166) = 8.23, p < .001$				

Note. All coefficients are unstandardized. Warmth, competence, and understanding are mean-centered. Condition: 0 = Control condition, 1 = Input condition.

Table 7. Overall study and condition descriptive statistics.

	Overall M (SD) / %	Choice Given M (SD) / %	No Explanation M (SD) / %	Explanation Given M (SD) / %	F/χ^2	p
Competence	5.40 (1.16)	5.53 (.91)	5.45 (1.13)	5.22 (1.39)	$F(2, 177) = 1.20$	.30
Warmth	5.23 (1.11)	5.36 (.90)	5.08 (1.17)	5.23 (1.24)	$F(2, 178) = .95$	.39
Faith	4.38 (1.36)	4.48 (1.22)	4.22 (1.40)	4.43 (1.47)	$F(2, 176) = .61$	.54
Dependability	5.01 (.80)	5.05 (.75)	4.96 (.81)	5.02 (.84)	$F(2, 174) = .17$	.84
Predictability	4.92 (1.05)	4.95 (1.07)	4.78 (1.09)	5.03 (.98)	$F(2, 179) = .88$	.42
Card Taken	47% (86/184)	44% (27/62)	48% (29/61)	49% (30/61)	$\chi^2(df = 2) = .42$	.81
Understanding	4.79 (1.61)	5.00 (1.59)	4.26 (1.71)	5.10 (1.41)	$F(2, 179) = 5.11$	.007
Satisfaction	5.42 (.92)	5.57 (.67)	5.25 (1.16)	5.43 (.87)	$F(2, 179) = 1.88$	.16
Future Intentions	5.38 (1.02)	5.42 (1.00)	5.35 (1.02)	5.39 (1.06)	$F(2, 172) = .07$	.93

Table 8. Bivariate correlations for Study 2 variables.

	Competence	Warmth	Faith	Dependability	Predictability	Card Taken	Understanding
Competence	-						
Warmth	.272*	-					
Faith	.185*	.480*	-				
Dependability	.286*	.463*	.706*	-			
Predictability	.313*	.331*	.395*	.583*	-		
Card Taken	.048	-.180*	-.144	-.085	-.044	-	
Understanding	.219*	.374*	.356*	.473*	.270*	-.067	-

Note. The asterisks (*) identify significant ($p < .05$) Pearson's R correlation coefficients.

Table 9. Logistic regression odds ratios for each trust component predicting card taking.

	OR	95% CI Lower	95% CI Upper	<i>p</i>	Cox & Snell R^2
Faith	.806	.646	1.006	.06	.021
Dependability	.806	.555	1.172	.26	.007
Predictability	.920	.696	1.215	.55	.002

Note. OR = Odds Ratio. OR 95% confidence intervals that do not contain 1 are statistically significant.

Table 10. Coefficients for the simple mediation model predicting faith with warmth and competence as covariates.

Antecedent	Consequent							
	M (Understanding)			Y (Faith)				
	Coeff.	SE	<i>p</i>	Coeff.	SE	<i>p</i>		
D ₁ (No Explanation)	<i>a</i> ₁	-.738	.251	.004	<i>c</i> ₁ '	.012	.226	.959
D ₂ (Explanation Given)	<i>a</i> ₂	.121	.251	.630	<i>c</i> ₂ '	.074	.220	.737
M (Understanding)		----	----	----	<i>b</i>	.187	.068	.007
C ₁ (Warmth)	<i>f</i> ₁	.442	.094	<.001	<i>g</i> ₁	.456	.088	<.001
C ₁ (Competence)	<i>f</i> ₂	.204	.092	.027	<i>g</i> ₂	.055	.082	.502
Constant	<i>i</i> ₁	.308	.178	.085	<i>i</i> ₂	4.338	.157	<.001
$R^2 = .238$				$R^2 = .271$				
$F(4, 167) = 13.05, p < .001$				$F(5, 166) = 12.32, p < .001$				

Note. All coefficients are unstandardized. Warmth, competence, and understanding are mean-

centered. D₁: 0 = Choice Given condition, 0 = Explanation Given condition, 1 = No Explanation condition. D₂: 0 = Choice Given condition, 0 = No Explanation condition, 1 = Explanation Given condition.

Table 11. Coefficients for the simple mediation model predicting dependability with warmth and competence as covariates.

Antecedent	Consequent							
	M (Understanding)			Y (Dependability)				
	Coeff.	SE	<i>p</i>	Coeff.	SE	<i>p</i>		
D ₁ (No Explanation)	<i>a</i> ₁	-.621	.242	.011	<i>c</i> ₁ '	.091	.124	.464
D ₂ (Explanation Given)	<i>a</i> ₂	.136	.243	.577	<i>c</i> ₂ '	.056	.123	.647
M (Understanding)		----	----	----	<i>b</i>	.173	.039	<.001
C ₁ (Warmth)	<i>f</i> ₁	.432	.092	<.001	<i>g</i> ₁	.213	.049	<.001
C ₁ (Competence)	<i>f</i> ₂	.253	.090	.006	<i>g</i> ₂	.086	.046	.067
Constant	<i>i</i> ₁	.268	.171	.119	<i>i</i> ₂	4.956	.087	<.001

$$R^2 = .248$$

$$F(4, 166) = 13.72, p < .001$$

$$R^2 = .334$$

$$F(5, 170) = 16.56, p < .001$$

Note. All coefficients are unstandardized. Warmth, competence, and understanding are mean-

centered. D₁: 0 = Choice Given condition, 0 = Explanation Given condition, 1 = No Explanation condition. D₂: 0 = Choice Given condition, 0 = No Explanation condition, 1 = Explanation Given condition.

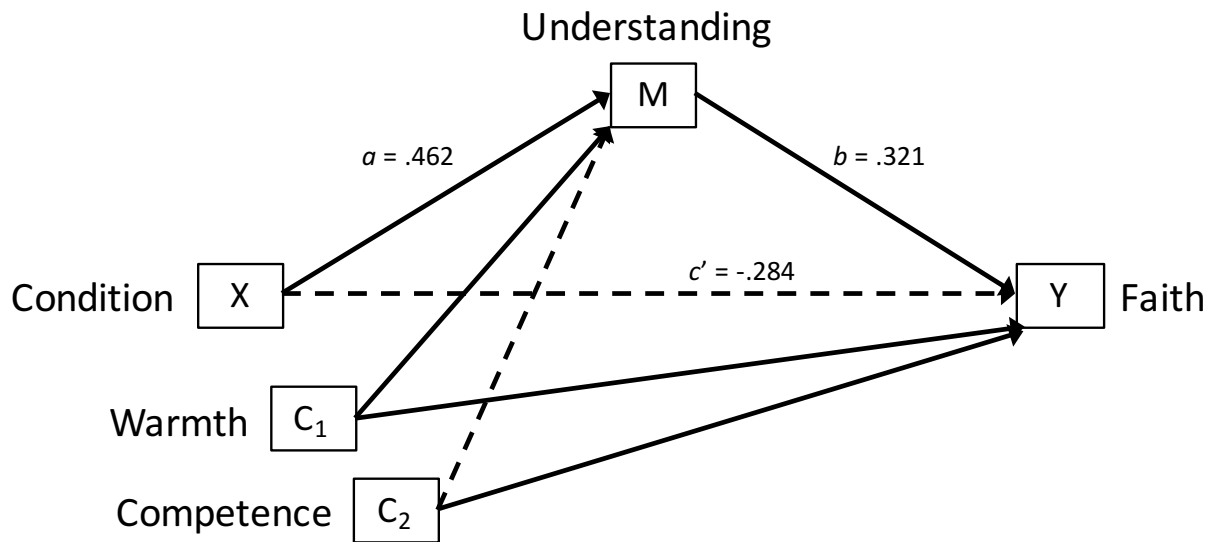
Table 12. Coefficients for the simple mediation model predicting predictability with warmth and competence as covariates.

Antecedent	Consequent							
	M (Understanding)			Y (Predictability)				
	Coeff.	SE	<i>p</i>	Coeff.	SE	<i>p</i>		
D ₁ (No Explanation)	<i>a</i> ₁	-.733	.245	.003	<i>c</i> ₁ '	.020	.182	.912
D ₂ (Explanation Given)	<i>a</i> ₂	.131	.246	.595	<i>c</i> ₂ '	.231	.178	.195
M (Understanding)		----	----	----	<i>b</i>	.090	.055	.107
C ₁ (Warmth)	<i>f</i> ₁	.442	.093	<.001	<i>g</i> ₁	.192	.072	.008
C ₁ (Competence)	<i>f</i> ₂	.209	.089	.020	<i>g</i> ₂	.225	.065	<.001
Constant	<i>i</i> ₁	.298	.174	.088	<i>i</i> ₂	4.832	.127	<.001
$R^2 = .240$				$R^2 = .194$				
$F(4, 171) = 13.51, p < .001$				$F(5, 170) = 8.171, p < .001$				

Note. All coefficients are unstandardized. Warmth, competence, and understanding are mean-

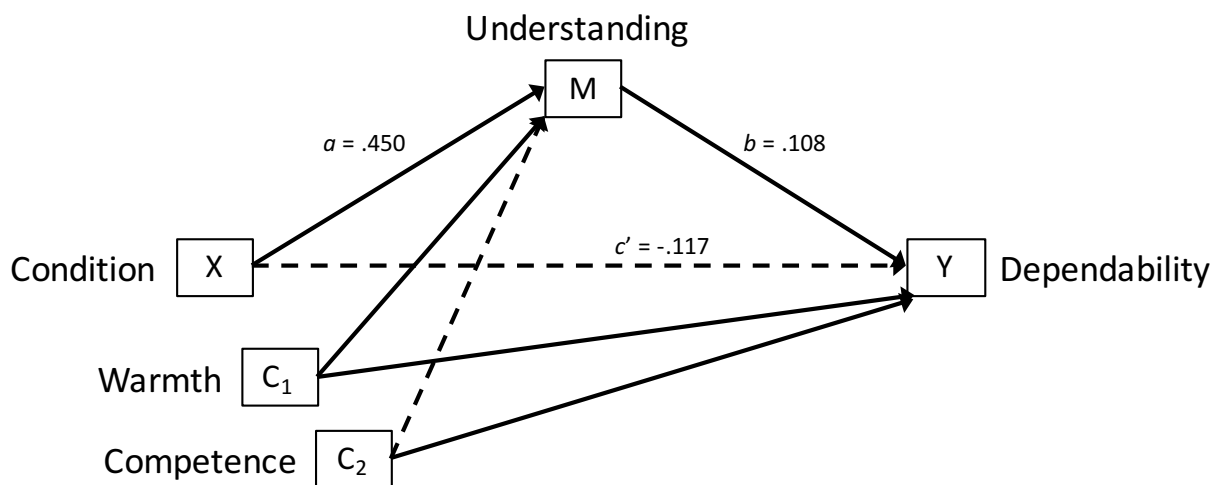
centered. D₁: 0 = Choice Given condition, 0 = Explanation Given condition, 1 = No Explanation condition. D₂: 0 = Choice Given condition, 0 = No Explanation condition, 1 = Explanation Given condition.

Figure 1. A statistical diagram of the simple mediation model for the effect of condition on faith through understanding with warmth and competence as covariates.



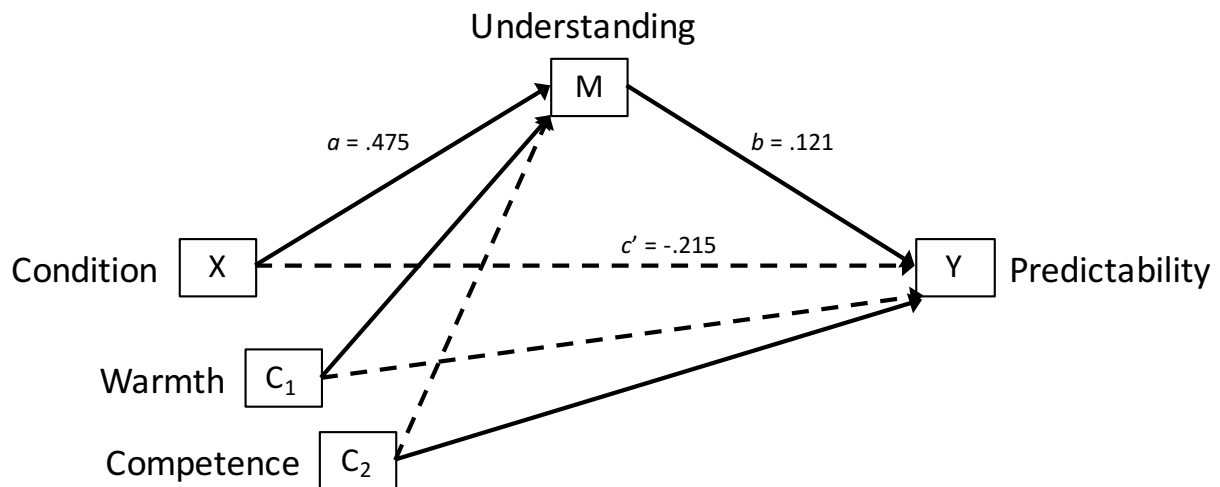
Note: Reported model coefficients are unstandardized. Dashed lines represent paths where coefficients do not reach statistical significance ($p > .05$).

Figure 2. A statistical diagram of the simple mediation model for the effect of condition on dependability through understanding with warmth and competence as covariates.



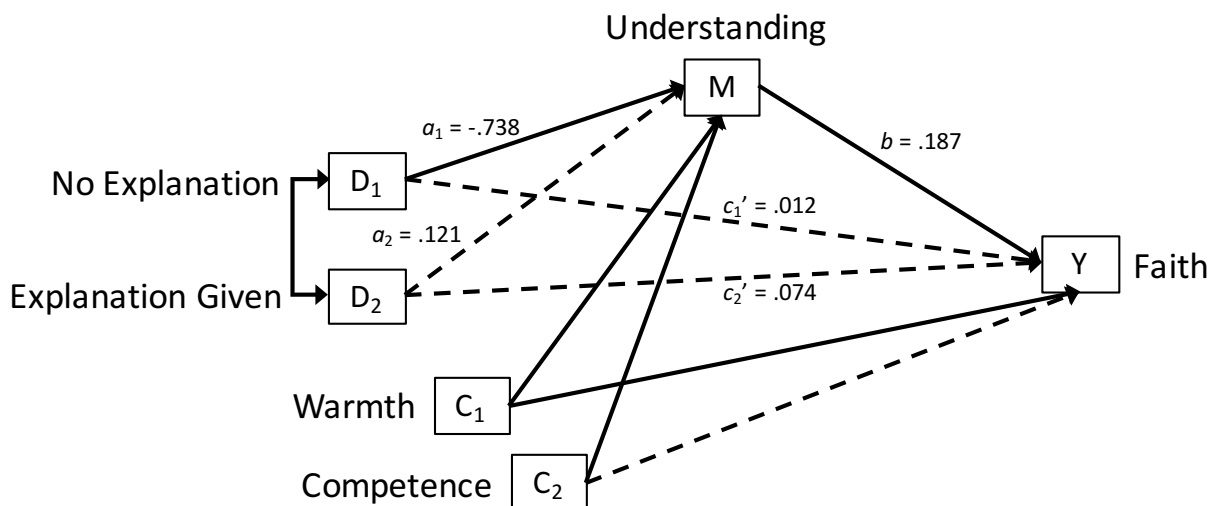
Note. Reported model coefficients are unstandardized. Dashed lines represent paths where coefficients do not reach statistical significance ($p > .05$).

Figure 3. A statistical diagram of the simple mediation model for the effect of condition on predictability through understanding with warmth and competence as covariates.



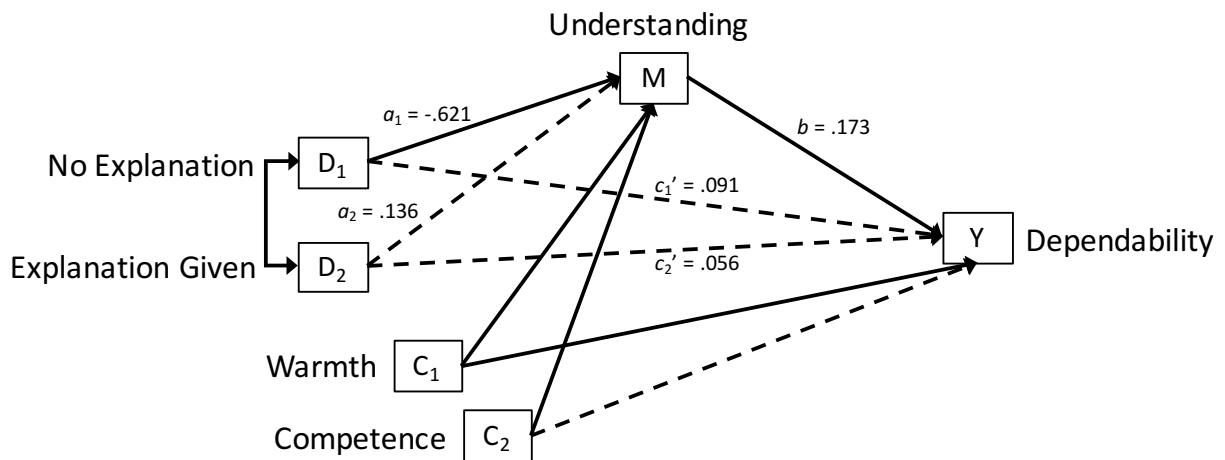
Note. Reported model coefficients are unstandardized. Dashed lines represent paths where coefficients do not reach statistical significance ($p > .05$).

Figure 4. A statistical diagram of the simple mediation model for the effect of condition on faith through understanding with warmth and competence as covariates.



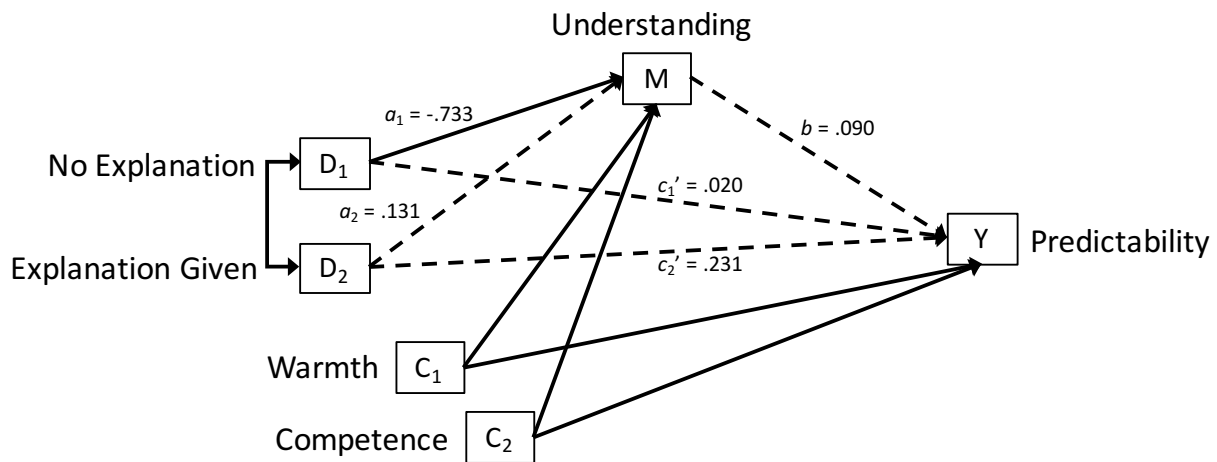
Note: Reported model coefficients are unstandardized. Dashed lines represent paths where coefficients do not reach statistical significance ($p > .05$). D₁: 0 = Choice Given condition, 0 = Explanation Given condition, 1 = No Explanation condition. D₂: 0 = Choice Given condition, 0 = No Explanation condition, 1 = Explanation Given condition. The Choice Given condition is the reference group.

Figure 5. A statistical diagram of the simple mediation model for the effect of condition on dependability through understanding with warmth and competence as covariates.



Note: Reported model coefficients are unstandardized. Dashed lines represent paths where coefficients do not reach statistical significance ($p > .05$). D₁: 0 = Choice Given condition, 0 = Explanation Given condition, 1 = No Explanation condition. D₂: 0 = Choice Given condition, 0 = No Explanation condition, 1 = Explanation Given condition. The Choice Given condition is the reference group.

Figure 6. A statistical diagram of the simple mediation model for the effect of condition on predictability through understanding with warmth and competence as covariates.



Note: Reported model coefficients are unstandardized. Dashed lines represent paths where coefficients do not reach statistical significance ($p > .05$). D₁: 0 = Choice Given condition, 0 = Explanation Given condition, 1 = No Explanation condition. D₂: 0 = Choice Given condition, 0 = No Explanation condition, 1 = Explanation Given condition. The Choice Given condition is the reference group.

Appendix A

Initial Relationship Questions Battery

Upon beginning participation in the study, participants will be asked to complete an initial battery of questions about their current and past interpersonal relationships.

Social

1. How many people would you consider to be close friends?
2. How many of your close friends have you known longer than 5 years?
3. How many of your close friends attend the same university as you?
4. Do you feel like you can count on your close friends for help and support when you face challenges?
5. What is the first name of the person you would consider to be your best friend?

Family

1. List the people you consider to be part of your immediate family and label your relationship with each of them (e.g., mother, step-brother, adopted sister).
2. How many people are in your family (i.e., immediate, chosen, and extended)?
3. What is the first name of the family member you feel like you have the closest relationship with?
4. What is the first name of the family member you feel like you have the most distant relationship with?

Work

1. How positive is your relationship with your primary supervisor?
2. How many coworkers do you interact with on any given day at work?
3. How many coworkers do you socialize with at work?
4. How many coworkers do you socialize with outside of work?
5. What is the first name of the coworker you that you feel like you have the closest relationship with?

School

1. How many students were in your largest class last semester?
2. Did you become friends with any of the students in your largest class last semester?
3. How many students were in your smallest class?
4. Did you become friends with any of the students in your smallest class last semester?
5. How many of the people that you go to school with would you consider to be friends?
6. How many of the people that you go to school with would you consider to be close friends?
7. What is the first name of the person that you go to school with that you feel like you have the closest relationship with?

Sexual

1. How many sexual partners have you had in your life time?
2. Have you had sex with at least one sexual partner during the last 12 months?
3. What is the first name of person that you have most recently had sex with?
4. Do you currently have someone that you consider to be your sexual partner?

5. What is the first name of the person you consider to be your current sexual partner?
6. How long was the longest sexual relationship you have ever been in?
7. What is the first name of the person you were/are in the longest sexual relationship with?

Romantic

1. How many romantic relationships have you had in your life time?
2. Have you been in a romantic relationship during the last 12 months?
3. Are you currently in a romantic relationship?
4. What is the first name of the person you are currently in a romantic relationship with?
5. How long was the longest romantic relationship you have ever been in?
6. What is the first name of the person you were/are in the longest romantic relationship with?

Appendix B

Modified Investment Model Scale Questions

Participants will complete a version of the Investment Model Scale (Rusbult, Martz, & Agnew, 1998) that has been modified to focus on the specific relationship that is assigned by the research assistant. Participants will respond to each item using a 9-point scale (0 = *do not agree at all*; 8 = *agree completely*).

Commitment

1. I am committed to maintaining my relationship with [relationship target].
2. I want my relationship with [relationship target] to last for a very long time.
3. I feel very attached to my relationship with [relationship target].
4. I would not feel very upset if my relationship with [relationship target] were to end.
5. I want my relationship with [relationship target] to last forever.
6. My relationship with [relationship target] is likely to end in the near future.

Satisfaction

1. I feel satisfied with my relationship with [relationship target].
2. My relationship with [relationship target] is much better than others' relationship.
3. My relationship with [relationship target] is close to ideal.
4. My relationship with [relationship target] makes me very happy.

Alternatives

1. My alternatives to spending time with [relationship target] are attractive to me
2. My alternatives to my relationship with [relationship target] are close to ideal
3. My relational needs could easily be met by people other than [relationship target].

Investment

1. I have put a great deal into my relationship with [relationship target] that I would lose if our relationship ended.
2. Compared to other people I know, I have invested a great deal into my relationship with [relationship target].
3. I feel very involved in my relationship with [relationship target] – like I have put a great deal into the relationship.
4. My relationship with friends and family members would be damaged if my relationship with [relationship target] ended.

Appendix C

Relationship-specific Attachment Style Questions

Relationship-specific attachment will be assessed using the Experiences in Close Relationships – Relationships Structures questionnaire (Fraley, Heffernan, Vicary, & Brumbaugh, 2011) that has been modified to focus on the specific relationship that is assigned by the research assistant. Participants will respond to each item using a 9-point scale (0 = *strongly disagree*; 8 = *strongly agree*).

Avoidance

1. I usually discuss my problems and concerns with [relationship target].
2. I talk things over with [relationship target].
3. It helps to turn to [relationship target] in times of need.
4. I find it easy to depend on [relationship target].
5. I prefer not to show [relationship target] how I feel deep down
6. I don't feel comfortable opening up to [relationship target].

Anxiety

1. I'm afraid [relationship target] may abandon me.
2. I worry that [relationship target] won't care about me as much as I care about him or her.
3. I often worry that [relationship target] doesn't really care about me.

Appendix D

Participant Feedback Script

Investment Model Feedback

[Average Score Index: 0.00 – 2.00 = Low; 2.01 – 5.00 = Medium; 5.01 – 8.00 = High]

RESEARCH ASSISTANT SAYS: One of the measures that you completed was the Investment Model Scale. This scale taps into four relationship components: satisfaction, investment, alternatives, and commitment. Your scores indicated that you have [Low/Medium/High] levels of satisfaction in your relationship with [relationship target]. High levels of satisfaction would indicate that you are happy with your relationship with [relationship target], and low levels of satisfaction would indicate that you are not happy with your relationship with [relationship target]. You scored [Low/Medium/High] on investment. High levels of investment would indicate that you have put a lot of time, effort, energy, or resources into your relationship with [relationship target], whereas low levels of investment would indicate that you have not put a lot into your relationship with [relationship target]. For alternatives, you scored [Low/Medium/High]. Low levels of alternatives would indicate that few other people could meet your relationship needs like [relationship target], whereas high levels of alternatives suggests other people could easily meet your relationship needs. Finally, you scored [Low/Medium/High] on commitment. High levels of commitment would indicate that you want your relationship with [relationship target] to be a lasting relationship. Low levels of commitment would indicate that you are not interested in your in maintaining your relationship with [relationship target].

Attachment Style Feedback

[Average Score Index: 0.00 – 2.00 = Low; 2.01 – 5.00 = Medium; 5.01 – 8.00 = High]

RESEARCH ASSISTANT SAYS: The measure of attachment style that was used in this study focused on the expression of attachment in the specific relationship that you have with [relationship target]. Attachment is broken into two subscale components: avoidance and anxiety. You scored [Low/Medium/High] on avoidance. High scores on avoidance would indicate that you may prefer not to open up to or rely on [relationship target], whereas low scores on avoidance would indicate that you are comfortable opening yourself up to [relationship target]. On the anxiety subscale you scored [Low/Medium/High]. High scores on the anxiety subscale would indicate that you may have concerns about whether [relationship target] is available, responsive, and attentive to you, whereas low scores would indicate that are not very concerned about these aspects of your relationship with [relationship target].

Appendix E

Post-Interaction Dependent Measure Assessment Script***After providing the feedback:***

SAY: That is all that we needed to do for this study. Thank you for participating. It looks like we have a few minutes left, so would you mind completing a performance evaluation card for me while I wrap things up and assign you your credit? Your responses are kept private by folding the paper in half and putting it in the locked box. The lab supervisor is the only one who has a key and he is the only one who will be reviewing your responses.

ACTION:

- A. If the participant agrees to complete the evaluation, give him/her the top card from the stack of performance evaluation cards. And then leave the room to complete the Timing Survey.
- B. If the participant does not agree to complete the the evaluation, thank him/her for his/her time and make a note on the participation log.

After leaving the room to let the participant complete the evaluation:

ACTION: When you go back into the lab thank the participant again for completing the study and the evaluation and then say the following:

SAY: Unfortunately, there seem to be some issues with the SONA system right now, so I can't award you your credit. However, I will make sure that that gets taken care of in the next 24 hours. Though, if you have any concerns, you are welcome to take one of the lab supervisor's business cards that are sitting by the window and send him an email. Thank you again!

Appendix F

Trust Measure Questions

Trust will be assessed using 10 total items (Rempel, Holmes, & Zanna, 1985) that have been modified to capture participants' evaluations of the research assistant. Participants will respond to each item using a 7-point scale (0 = *strongly disagree*; 6 = *strongly agree*).

Faith

1. Even though I don't know how the research assistant would react, I would feel comfortable telling him/her anything about myself; even those things of which I am ashamed.
2. I could rely on the research assistant to react in a positive way if I expose my most personal information to him/her.
3. When working with the research assistant I would feel secure in facing unknown, new situations.

Dependability

1. I could count on the research assistant to be concerned about my welfare.
2. I would have to keep alert or the research assistant might take advantage of me.
3. I could rely on the research assistant to keep the promises he/she makes to me.
4. Even if the research assistant provides explanations that sound rather unlikely, I would be confident that he/she would be telling the truth.

Predictability

1. The research assistant would be very unpredictable.
2. I would not know how he/she is going to act from one session to the next; The research assistant would behave in a very consistent manner.
3. I would be able to predict how the research assistant is going to act. He/she could be counted on.

References

- Berg, J., Dickhaut, J., & McCabe, K. (1995). Trust, reciprocity, and social history. *Games and Economic Behavior*, *10*, 122-142. doi: 10.1006/game.1995.1027
- Cox, J. C., Ostrom, E., Sadiraj, V., & Walker, J. M. (2013). Provision versus appropriation in symmetric and asymmetric social dilemmas. *Southern Economic Journal*, *79*, 496-512. doi: 10.4284/0038-4038-2012.186
- Das, T. K., & Teng, B.-S. (1998). Between trust and control: Developing confidence in partner cooperation in alliances. *Academy of Management Review*, *23*, 491-512. doi: 10.2307/259291
- Eiser, J. R., Stafford, T., Henneberry, J., & Catney, P. (2009). “Trust me, I’m a scientist (not a developer)”: Perceived expertise and motives as predictors of trust in assessment of risk from contaminated land. *Risk Analysis*, *29*, 288-297. doi: 10.1111/j.1539-6924.2008.01131.x
- Fiske, S. T., Cuddy, A. J. C., & Glick, P. (2006). Universal dimensions of social cognition: Warmth and competence. *Trends in Cognitive Sciences*, *11*, 77-83. doi: 10.1016/j.tics.2006.11.005
- Fiske, S. T., Cuddy, A. J. C., Glick, P., & Xu, J. (2002). A model of (often mixed) stereotype content: Competence and warmth respectively follow from perceived status and competition. *Journal of Personality and Social Psychology*, *82*, 878-902. doi: 10.1037//0022-3514.82.6.878
- Fraley, C. R., Heffernan, M. E., Vicary, A. M., & Brumbaugh, C. C. (2011). The Experiences in Close Relationships – Relationship Structures Questionnaire: A method for assessing

- attachment orientation across relationships. *Psychological Assessment*, 23, 615-625. doi: 10.1037/a0022898
- Goldberg, L. R., Johnson, J. A., Eber, H. W., Hogan, R., Ashton, M. C., Cloninger, C. R., & Gough, H. C. (2006). The International Personality Item Pool and the future of public-domain personality measures. *Journal of Research in Personality*, 40, 84-96. doi: 10.1016/j.jrp.2005.08.007
- Hall, M. A., Dugan, E., Zheng, B., & Mishra, A. K. (2001). Trust in physicians and medical institutions: What is it, can it be measured, and does it matter? *The Milbank Quarterly*, 79, 613-639. doi: 10.1111/1468-0009.00223
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York, NY: The Guilford Press
- Hayes, A. F., & Preacher, K. J. (2014). Statistical mediation analysis with a multicategorical independent variable. *British Journal of Mathematical and Statistical Psychology*, 67, 451–470. <http://doi.org/10.1111/bmsp.12028>
- Hofstee, W. K. B., de Raad, B., & Goldberg, L. R. (1992). Integration of the Big Five and circumplex approaches to trait structure. *Journal of Personality and Social Psychology*, 63, 146-163. doi: 10.1037//0022-3514.63.1.146
- International Personality Item Pool (IPIP): A scientific collaboratory for the development of advanced measures of personality traits and other individual differences (<http://ipip.ori.org/>). Internet Web Site.
- Johnson, N. D., & Mislin, A. A. (2011). Trust games: A meta-analysis. *Journal of Economic Psychology*, 32, 865-889. doi: 10.1016/j.joep.2011.05.007

- Kanagaretnam, K., Mestelman, S., Nainar, S. M. K., & Shehata, M. (2012). The impact of empowering investors on trust and trustworthiness. *Journal of Economic Psychology*, *33*, 566-577. doi: 10.1016/j.joep.2011.11.002
- Kelley, H. H., Holmes, J. G., Kerr, N. L., Reis, H. T., Rusbult, C. E., & Van Lange, P. A. M. (2003). *An atlas of interpersonal situations*. New York, NY: Cambridge University Press.
- Komorita, S. S. (1965). Cooperative choice in a prisoner's dilemma game. *Journal of Personality and Social Psychology*, *2*, 741-745. doi: 10.1037/h0022673
- Lee, Y.-Y., & Lin, J. L. (2010). Do patient autonomy preferences matter? Linking patient-centered care to patient-physician relationships and health outcomes. *Social Science & Medicine*, *71*, 1811-1818. doi: 10.1016/j.socscimed.2010.08.008
- Luce, R. D., & Riffa, H. (1957). *Games and decisions*. New York, NY: Wiley.
- McKelvey, R. D., & Palfrey, T. R. (1992). An experimental study of the centipede game. *Econometrica*, *60*, 803-836. doi: 10.2307/2951567
- Morgan, R. M., & Hunt, S. D. (1994). The Commitment-Trust Theory of relationship marketing. *Journal of Marketing*, *58*, 20-38. doi: 10.2307/1252308
- Murray, S. L., Gomillion, S., Holmes, J. G., Harris, B., & Lamarche, V. (2013). The dynamics of relationship promotion: Controlling the automatic inclination to trust. *Journal of Personality and Social Psychology*, *104*, 305-334. doi: 10.1037/a0030513
- Murray, S. L., Pinkus, R. T., Holmes, J. G., Harris, B., Gomillion, S., Aloni, M., Derrick, J. L., Leder, S. (2011). Signaling when (and when not) to be cautious and self-protective: Impulsive and reflective trust in close relationships. *Journal of Personality and Social Psychology*, *101*, 485-502. doi: 10.1037/a0023233

- Rempel, J. K., Holmes, J. G., & Zanna, M. P. (1985). Trust in close relationships. *Journal of Personality and Social Psychology*, *48*, 95-112. doi: 10.1037/0022-3514.49.1.95
- Rempel, J. K., Ross, M., & Holmes, J. G. (2001). Trust and communicated attributions in close relationships. *Journal of Personality and Social Psychology*, *81*, 57-64. doi: 10.1037//0022-3514.81.1.57
- Rusbult, C. E., Martz, J. M., & Agnew, C. R. (1998). The Investment Model Scale: Measuring commitment level, satisfaction level, quality of alternative, and investment size. *Personal Relationships*, *5*, 357-391. doi: 10.1111/j.1475-6811.1998.tb00177.x
- Seppala, T., Lipponen, J., Pirttila-Backman, A.-M., & Lipsanen, J. (2011). Reciprocity of trust in the supervisor-subordinate relationship: The mediating role of autonomy and the sense of power. *European Journal of Work and Organizational Psychology*, *20*, 755-778. doi: 10.1080/1359432X.2010.507353
- Simpson, J. A. (2007a). Foundations of interpersonal trust. In A. W. Kruglanski & E. T. Higgins (Eds.), *Social psychology: Handbook of basic principles* (2nd ed. pp. 587-607). New York, NY: Guilford.
- Simpson, J. A. (2007b). Psychological foundations of trust. *Current Directions in Psychological Science*, *16*, 264-268. doi:10.1111/j.1467-8721.2007.00517.x
- Solomon, L. (1960). The influence of some types of power relationships and game strategies upon the development of interpersonal trust. *Journal of Abnormal and Social Psychology*, *61*, 223-230. doi: 10.1037/h0047571
- Stouten, J., De Cremer, D., & van Dijk, E. (2006). Violating equality in social dilemmas: Emotional and retributive reactions as a function of trust, attribution, and honesty.

Personality and Social Psychology Bulletin, 32, 894-906. doi:

10.1177/0146167206287538

Tucker, A. W. (1983). The mathematics of Tucker: A sampler. *The Two-Year College*

Mathematics Journal, 14, 228-232. doi: 10.2307/3027092

Walker, L., Lind, E. A., & Thibaut, J. (1979). The relation between procedural and distributive

justice. *Virginia Law Review*, 65, 1401-1420. doi: 10.2307/1072580

Wieselquist, J., Rusbult, C. E., Foster, C. A., & Agnew, C. R. (1999). Commitment, pro-

relationship behavior, and trust in close relationships. *Journal of Personality and Social*

Psychology, 77, 942-966. doi: 10.1037/0022-3514.77.5.942

VITA

NAME OF AUTHOR: Michael Ioerger

PLACE OF BIRTH: Wichita, Kansas

DATE OF BIRTH: July 29, 1989

GRADUATE AND UNDERGRDUATE SCHOOLS ATTENDED:

Syracuse University, Syracuse, New York, USA

SUNY Upstate Medical University, Syracuse, New York, USA

Colorado State University, Fort Collins, Colorado, USA

University of Nebraska – Lincoln, Lincoln, Nebraska, USA

DEGREES AWARDED:

Bachelor of Science in Psychology, 2011, University of Nebraska – Lincoln

PROFESSIONAL EXPERIENCE

Instructor, University College, Syracuse University, 2014 – 2015

Teaching Assistant, Dept. of Psychology, Syracuse University, 2013 – 2015

Teaching Assistant, Dept. of Psychology, Colorado State University, 2011 – 2013

Head Teaching Assistant, School of Biology, University of Nebraska, 2009 – 2011

Teaching Assistant, School of Biology, University of Nebraska, 2009 – 2011