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TRUST IN DEVELOPING RELATIONSHIPS: FROM THEORY TO MEASUREMENT

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INTRODUCTION

It has been 10 years since Lewicki and Bunker (1995, 1996) published their multi-dimensional conceptual framework for understanding the facets of trust within interpersonal relationships and the processes by which trust relationships emerge and evolve over time. Within that framework, Lewicki and Bunker identified three distinct dimensions of trust—calculus-based (CBT), knowledge-based (KBT), and identification-based trust (IBT)—and explained the developmental sequence by which CBT provided a foundation for KBT, which in turn provided a foundation for IBT. The heuristic value of this framework as a starting point for thinking about interpersonal trust and trust development is reflected in the frequency with which it is cited both in published studies and in literature reviews (Dirks & Ferrin, 2002; Kramer, 1999; Rousseau, Sitkin, Burt & Camerer, 1998). To this point, however, there has been limited empirical work done either to test the claims of the theory or to explore more fully its explanatory and practical implications. Clearly one setback for researchers interested in using the framework has been the lack of validated operational measures for the trust constructs. This report presents the findings of three empirical studies focused on systematic and progressive refinement and validation of a measure of these forms of interpersonal trust.

THE THREE COMPONENTS OF INTERPERSONAL TRUST

The framework proposed by Lewicki and Bunker is founded upon a view of trust as “*confident positive expectations about another’s motives with respect to oneself in situations entailing risk*” (Lewicki & Bunker, 1995: 139; Boon & Holmes, 1991: 194). The three types of trust identified by Lewicki and Bunker—CBT, KBT and IBT—highlight the different ways in which the confident positive expectations of trust are established.

Lewicki and Bunker defined CBT as confidence founded on the understanding that both potent rewards for preserving that confidence and punishments for violating it are in place. While arguing that calculus-based trust might be driven by both the value of benefits and the costs of cheating, Lewicki and Bunker acknowledged that deterrent elements would probably be the more influential of the two, and that the effectiveness of deterrents would depend on a trusting party’s capacity and commitment to impose sanctions for defection.

Lewicki and Bunker defined KBT in terms of confidence in another's predictability, dependability, and reliability. It requires good information regarding a trustee that comes from the experience of working together and regular communication. As such, this form of trust is predicated upon the deeper interpersonal familiarity and understanding that emerges over time with repeated interaction.

Finally, Lewicki and Bunker defined IBT as confidence based upon the understanding that full internalization of each other's desires and intentions has been achieved—the parties understand each other, agree with what each other wants, and are prepared to support one another in pursuit of those ends. Lewicki and Bunker observed that this form of trust would permit each party to serve as the other's agent and to substitute for each other on occasion.

Associations among Trust Constructs

Lewicki and Bunker posited that CBT would emerge in many relationships, KBT in some relationships, and IBT in only a few relationships. Further, they maintained that these forms of trust would emerge in a stage-wise manner. That is, CBT should provide the tactical good-sense required for initiation of interdependent action. Trust concerns at this level would make repeated interaction difficult, and limit the potential for relationship development and the emergence of deeper trust. As CBT is validated, and benefits from working together are obtained, repeated interaction would be possible and with that interaction would come knowledge of the other's dependability and reliability (KBT emergence). Further relationship development, through repeated interaction and interdependence elaboration seen as mutually beneficial, would make the relationship increasingly unique and personal (Silver, 1989). In addition, such relationship development would provide the foundation for IBT emergence.

While viewing these trust constructs as sequentially linked, Lewicki and Bunker were careful to avoid normative evaluation of trust constructs as being better or worse. Rather, they maintained that most people want and have relationships at different stages of development because they serve different purposes. An important implication of the model, left undeveloped by Lewicki and Bunker, is that distinctive patterns of association between the various trust constructs and behavioral outcomes should emerge based upon the unique purposes they serve.

STUDY 1

The focus of Study 1 was on measuring the three dimensions of trust—CBT, KBT & IBT—and on their variation across different types of relationships. We also wanted to see whether the measures of trust constructs would perform as the theory would suggest across relational settings. We predicted that, for respondents describing relationships low in trust (e.g., the person you trust the least), all three forms of trust should be uniformly low. We also predicted that, for respondents describing relationships high in trust (e.g., the person you trust the most), all three forms of trust should be uniformly high. Finally, we predicted that, for respondents describing other ongoing relationships (e.g., 'a good working relationship' and 'a professional relationship'), average trust levels would be moderate.

Method

Undergraduate psychology students from a Midwestern university participated in the study (n=482). Study participants were asked to evaluate the quality of their trust in two different individuals of their choice, with the nature of the relationship assigned by the researchers. The two relationships were randomly selected from a set of four possibilities—‘The person whom you trust the most’ (Trust Most), ‘A peer or coworker with whom you have a good working relationship’ (Good Working Relationship), ‘Someone you interact with in a professional capacity’ (Professional Relationship), and ‘Someone who has seriously violated your trust’ (Trust Violated). Respondents provided trust assessments using Lewicki’s 50-item Interpersonal Relationships Scale (Lewicki, 1996). We divided the dataset into two equivalent sub-samples in preparation for exploratory factor analysis (sub-sample 1), followed by confirmatory factor analysis (sub-sample 2).

Results and Discussion

EFA results of subsample 1 (maximum likelihood extraction, oblique rotation, and all factors with eigenvalues exceeding 1 retained) showed the existence of 5 factors. CFA findings with the second subsample showed that the obtained five-factor model provided a good fit for the data ($\chi^2(df) = 1099.67(416)$; GFI = .87; CFI = .93; RMSEA = .06). Three factors were similar to those in Lewicki and Bunker’s model—CBT anchored in deterrence [hereafter referred to as deterrence-based trust (DBT)], KBT reflecting perceived dependability and reputation, and IBT reflecting the perception of shared values. Sample items of DBT, KBT and IBT are “This person fears the consequences if they don’t comply”, “In my experience, this person is very reliable” and “This person and I have the same goals” respectively.

Two additional factors were also identified—effect-based trust (ABT) reflecting the quality of the emotional bond within the trust relationship, and ‘communication.’ The ABT factor consisted of items thought to be foundational to identification-based trust within the original Lewicki-Bunker framework (sample item, “This person likes me”). Because frequent communication (sample item, “We communicate regularly and I can check up on this person”) can be reflective of either transparency (high trust) or a need to monitor closely (low trust), we removed this construct from consideration in further analyses.

Using the confirmatory subsample, we plotted standardized scores of the four trust constructs (DBT, KBT, IBT & ABT) and examined trust level differences across relationship conditions. As expected, KBT, IBT and ABT were uniformly high for the ‘trust most’ and low for the ‘violated trust’ conditions. Results for DBT clearly reflected a different pattern of means—deterrence-based trust was highest for the ‘violated trust’ condition, and consistently lower than the other forms of trust in the ‘trust most’ condition. The findings are consistent with the understanding that deterrents emerge under conditions of distrust, and thus represent institutionalized distrust rather than trust (Lewicki, McAllister & Bies, 1998; Luhmann, 1979).

STUDY 2

Study 2 builds upon Study 1 by examining the factor structure of the derived trust measures (KBT, IBT, and ABT) within various types of workplace social relations. Given substantial differences that can exist in the power and authority of parties to social relationships

within workplace settings, we sought to examine whether the measures developed in study 1 could be used to describe trust within vertical-upward, vertical-downward, and horizontal relationships alike. We maintained that a measure suitable for organizational research would need equivalent psychometric properties throughout.

Method

Peers, supervisors, and subordinates of 243 professionals participating in an executive development course conducted at a major Midwestern university provided the assessments used in this study. Assessments were collected as part of a 360-degree feedback exercise for the course participants. To assure complete independence of observations, we randomly selected responses from one individual when assessments concerning a specific focal individual were collected from more than one person within a specific category (peer, supervisor, or subordinate). Thus, although we collected responses from 976 individuals, data for this study consists of three sub-samples of data from peers (160), supervisors (133), and subordinates (178). We used Cheung & Rensvold's (2002) procedure for establishing invariance across sub-samples.

Results and Discussion

Taken together, our findings show measurement invariance ($\Delta\text{CFI} < .01$) in assessments of trust across three relational settings—trust among peers, trust in supervisors, and trust in subordinates. This finding provides further evidence of the discriminant validity of the three trust constructs. Further, results clearly show that the three-factor model ($\chi^2(df) = 725.68(297)$; CFI = .93; RMSEA = .05) provides substantially better fit of the data than the single factor model ($\chi^2(df) = 1663.22(306)$; CFI = .78; RMSEA = .10).

STUDY 3

Study 3 builds upon this study 2 by examining whether these dimensions of trust emerge through social interaction as suggested by the theory, and whether they can be used to make differential predictions about relationship-related behavior. We felt that it would be important to establish that, after controlling for dispositional and situational factors, trust emerging within relationships explains unique variance in trust outcomes. We also conducted this third study to examine the extent to which the three trust constructs would differentially predict trust outcomes in a way that could be explained by the Lewicki-Bunker framework. Lewicki and Bunker argued that trust at different stages of relationship development would be qualitatively different, and that variation in the nature of trust matters because relationships at different stages of maturity serve different purposes. Differential prediction is important from the standpoint of demonstrating discriminant validity. It is also important to mention that we conducted this final study within another unique setting—teamwork social relations.

We developed three sets of hypotheses for empirical testing. First, we maintained that KBT (or rather the lack thereof) should uniquely predict the use of influence tactics. KBT provides an essential foundation for collaborative work. In interdependent settings where KBT is absent, individuals may need to bring about behavioral regularity—predictability, dependability, and control—by some other means, and this would entail increased use of influence tactics.

Second, following Dirks (1999), we maintained that all three forms of trust promote collaborative behavior in the forms of interpersonal helping and reliance. Mutual reliance and support are hallmarks of effective collaboration that require the foundation of KBT. In addition, IBT, founded upon knowledge of shared values and commitments, provides impetus for reliance and support, as do the emotional bonds among relationship members (affect-based trust). Accordingly, we proposed that all three forms of trust—KBT, IBT and ABT—would be direct predictors of reliance upon teammates and task assistance behavior.

Third, we maintained that IBT and ABT should uniquely predict self-disclosure and socio-emotional support provision within teams. The security of close trust relationships provides the environment in which personal disclosure can take place (Edmondson, 1999). The potential for disclosure increases when relationship partners have strong shared values (IBT) and are bound together by reciprocated care and concern (ABT). These same sentiments also provide bases for reaching out to relationship partners with expressions of socio-emotional support (Settoon & Mossholder, 2002).

Method

Data for this study was collected from 629 undergraduate students enrolled in a management course at a university in Singapore. Students were randomly assigned to teams of 6-8 individuals. Participation in the study was voluntary, and an alternative assignment was provided for those electing not to participate in this study. Students responded to a series of four online surveys that were completed over the course of eight weeks. The focus of each survey was on a different facet of students' teamwork experiences as follows: 1) Individual difference data was collected immediately after students were assigned to teams (T1); 2) initial assessments of trust, as well as teamwork attitudes and behavioral intentions, were collected one week later (T2); 3) Trust assessments were captured again at the start of the 5th week (T3) followed by teamwork attitudes and self-reported behavior at the start of the 6th week (T4).

With the exception of the trust measures developed and tested here, all other multi-item measures were drawn from previously validated instruments: generalized trust (International Personality Item Pool, 2001); reliance and disclosure (Gillespie, 2003); task assistance & socio emotional support (Settoon & Mossholder, 2002); hard, soft and rational influence tactics (Schriesheim & Hinkin, 1990). Following Farmer et al., (1997), hard tactic items incorporated elements of assertiveness, coalition building, and calling in favors. Soft tactic items incorporated ingratiation, and social exchange. Finally, rational tactic items were persuasion-oriented.

Results and Discussion

Correlations among study variables were, for the better part, as expected. We controlled for generalized trust, initial trust beliefs (e.g., KBT, IBT, and ABT beliefs at the start of the project), and behavioral intentions (e.g., intentions to rely, disclose, use influence tactics, and such, at the start of the project) in all regressions. We found that KBT was a significant negative predictor of hard tactic use ($\beta = -.23, p < .001$) and soft tactic use ($\beta = -.16, p < .001$). Further, KBT predicted reliance ($\beta = .11, p < .05$) but not task assistance ($\beta = -.00, ns$), IBT predicted both reliance ($\beta = .16, p < .001$) and task assistance ($\beta = .14, p < .01$), and ABT predicted both reliance ($\beta = .14, p < .01$) and task assistance ($\beta = .21, p < .001$). Unlike IBT, ABT predicted both provision of socio-emotional support ($\beta = .34, p < .001$) and disclosure ($\beta = .33, p < .001$). The strength of our findings,

largely consistent with expectations based upon Lewicki and Bunker's theory, is in the fact that we controlled for many plausible alternative predictor variables.

GENERAL DISCUSSION

Our findings across three studies reveal strong support for a new multidimensional measure of trust suitable for empirically testing arguments pertaining to Lewicki and Bunker's multi-stage model of trust development. Each of these four constructs in Study 1 had strong psychometric properties—strong factor loadings, and reliability—and three of them varied in predicted ways across four different relational settings (trust most, good working relationship, professional relationship, and betrayed trust). However, comparative analyses of responses across contexts revealed that the calculus-based measure was not a form of trust. In study 2, we found further evidence that the three retained trust measures (knowledge-, identification-, and affect-based trust) were distinct, reliable, and invariant across three different organization-based relational settings (trust among peers, trust in supervisors, and trust in subordinates). In study 3 we found that, beyond dyadic interpersonal relations, the three trust measures could be used to assess trust in groups of people (trust in teammates in general). While KBT and ABT may appear similar to and overlap with previously published trust instruments (Mayer & Davis, 1999; McAllister, 1995), we know of no other instruments comparable to our measure of IBT.

We are particularly encouraged to see the consistency of findings across relational settings and view this as strength of the derived measures. Across the three studies, we were able to reliably measure trust beliefs in eight potentially distinct relational settings—trust the most, good working relationship, professional relationship, trust violated, trust in peers, trust in subordinates, trust in supervisor, and trust in teammates.

While our focus was on measure development rather than theory testing, our findings across the three studies did reveal areas for refinement in Lewicki and Bunker's framework. First, the measure of CBT was higher under conditions of trust betrayal, suggesting that CBT or DBT assessments may actually be reflective of distrust rather than trust. Second, the emergence of ABT as a distinct facet of trust suggests a need to address the unique role of emotional bonds within trust development processes—clearly affective bonds become more salient as trust relationships mature, and these effects merit consideration. Third, there is considerable work to be done in specifying the distinctive consequences of trust. In our efforts to establish discriminant validity we made differential hypotheses concerning patterns of association between trust constructs and the behavior of trusting individuals, and we found patterns of effect that were consistent with our expectations.

Conclusion

Kurt Lewin (1951) is often credited as saying, "There's nothing so practical as a good theory." Good theories are those that explain, predict, and delight (Staw & Sutton, 1995), and we believe that Lewicki and Bunker's developmental model of trust has the potential to do these things. Our conviction, given the fact that we have a good theory, is that there's nothing so practical as good measures. We maintain that the measures of trust we have tested across three studies are pretty practical, and we recommend their use in empirical work.

REFERENCES AVAILABLE FROM THE AUTHOR(S)