

TOWARDS A MOTIVATIONAL AND COGNITIVE MODEL OF TRUST

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ABSTRACT

The article looks at the effects of risk on the formation of initial trust. The article argues that risk influences the content of trust or the importance a trustor places on benevolence versus ability. A difference in emphasis on benevolence versus ability is further seen as leading a trustor to adopt different information goals as well as causing the activation of different interpretive schemas which facilitate these goals. Finally the effect of a trustee's behavior on trust is argued to depend on the extent to which behavior matches the active information goals and interpretive schemas of the trustor in the situation. Three hypotheses are tested in two experiments. The article concludes with a discussion of empirical findings and no-findings as well as suggested implications for further research.

Keywords

Trust; risk; impression formation.

1 Introduction

Trust is salient, difficult and yet critical in many work-relationships where people come to depend upon other people of whom they know little for highly consequential outcomes.

Existing contributions on initial trust tend to see initial trust as presumptive trust in which trust is based on the perception that a situation is normal and predictable, or in perception that structural safeguards are in place to protect the interests of the trustor (McKnight, Cummings & Chervaney, 1998; Meyerson, Weick & Kramer, 1996). Structural safeguards however are less likely to facilitate trust in situations where a trustor faces high risk (Parsons, 1969). More generally we know little about how risk influences the formation of initial trust which leads up to the research question: How does risk influence the formation of trust in the initial stages of a relationship?

2 Central concepts and a perspective

Trust is here viewed from the perspective of a trustor who bestows trust upon a trustee and it is defined as a psychological state that comprises “...the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another” (Rosseau, Sitkin, Burt & Camerer, 1998: 395). Trust thus, is viewed as an intra-individual state that reflects the trustors’ appraisal of the situation and the behavior of the trustee. This appraisal is further seen as reflecting the situation of the trustor and more specifically the risk the trustor is exposed to in that situation. Risk is defined as “...the extent to which there is uncertainty about whether potentially significant and/or disappointing outcomes of decisions will be realized” (Sitkin & Pablo, 1992: 10). Risk according to Sitkin & Pablo has three dimensions; outcome uncertainty, defined as the variability of outcomes, lack of knowledge of the distribution of potential outcomes and the uncontrollability of the outcome potential (Sitkin & Pablo, 1992). Outcome expectations refer to the expected outcomes of a decision or action. Outcome potential refers to the possible range of outcomes as represented in questions of

“How bad could it get” or “How much could I win”. Our definition of trust incorporates risk in that trust is defined as a “...intention to accept vulnerability” or risk in relationships. Risk as a situational feature is likely to influence peoples’ perception of risk in a relationship as well as trust but the perception of risk as a situational feature and of risk in a relationship constitute distinct and separate constructs.

The argument that this article seeks to convey is that our understanding of trust and the formation of trust in initial encounters is severely limited by the failure to incorporate the effects that risk has on trust and the formation of trust. Most contributions on trust emphasize the effects of experience, structural assurances or categories on trust. Most contributions ascribe to the view that trust is influenced by various sources of information (experience, existing theories about people or cause-effect-relationships) which influences trust-related beliefs and the intention to trust. Risk however as a situational feature, by altering the form and content of trust, is likely to influence what people look for and the effect of antecedents on trust.

The literature on trust can be seen as differentiating between two forms of trust (McKnight, Cummings & Chervaney, 1998; McKnight, Cummings & Chervaney, 1996; Lewicki & Bunker, 1996; Mayer, Davis & Schoorman, 1995): Personal trust emphasizes benevolence, defined as the extent to which a trustee is believed to want to do good to the trustor, aside from an egocentric profit motive” (Mayer, Schoonhoven & Davis, 1995). Role based trust on the other hand emphasize ability defined as “...that group of skills, competencies and characteristics that enable a party to have influence within some specific domain.” (Mayer, Schoonhoven & Davis, 1995). Personal trust is vested in the trustor’s appraisal of the personal qualities of the trustee whereas role-based trust vested in the social and professional role of the trustee and the structural expectations associated with that role. These forms carry very different implications for the formation and development of trust. Personal trust is seen as

requiring that a trustee reveals some of his or her personal motivations or preferences:

According to Luhmann then “role conformity offers little opportunity for the presentation of self...and therefore can be trusted as little as the person who hurries past” (Luhmann, 1979).

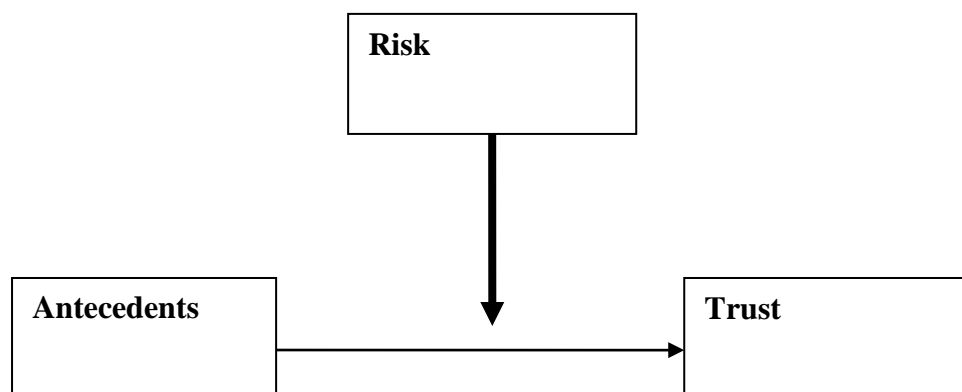
Role based trust on the other hand mandates that a trustee enacts his or her role in a clear, unambiguous way (Meyerson, Weick & Kramer, 1996) and that “people act toward one another in terms of roles and has a clear understanding of other’s roles (Meyerson, et al. 1996). Role based trust thus emphasizes in-role or role congruent behavior where the behavior is easily attributable to the role of the trustee (e.g. consultant, doctor). Personal trust emphasizes trait diagnostic out-of-role behavior in which behavior is attributed to personal traits as opposed to role expectations (Guiot, 1977; Jones, Davis & Gergen, 1961).

Thus, depending on the form of trust active in a particular situation, similar behavior may have different effects on subsequent trust. Introducing risk as a second variable in addition to the more conventionally studied antecedents (role-performance, experience, structural safeguards) provide us with a way of understanding where these different forms and recipes apply, leaving us with a more general and hence, more useful model of initial trust.

The article brings together three assumptions, all of which are grounded in existing theory. A first assumption is that trust is about something and that the content of trust or what trust is about will reflect the situation facing a trustor. Risk in the form of stakes thus is likely to influence the form trust takes. A second assumption is that people seek to understand and predict their surroundings and that trust results from peoples’ attempts of understanding, predicting and ultimately controlling their social surroundings. What people seek to know and how they go about acquiring knowledge reflects the pragmatics of the situation (Moskowitz, Skurnik & Galinsky, 1999; Fiske, 1992). A trustor’s risk in the sense of the stakes or outcome potential facing a trustor in the situation (“how bad could it get”) is likely to influence what the trustor seek to know, what he or she is likely to look for and even the strategies he or she

is likely to pursue in searching knowledge. People are further assumed to be conscious and aware of their information processing and respond not only to the declarative content of information but even to their experience of information processing and their progression (or possibly lack of such) toward an information goal (Higgins, 1996). In situations where people lack more substantive knowledge, as in the initial stages of a relationship, peoples' experience of information processing will be influential in the formation of trust (Winkielman, Schwarz, Fazendeiro, & Reber, 2003). Figure 1 show the differences between conventional approaches to initial trust and the approach adopted in this article. The thin line from antecedents to trust indicates the conventional approach to studying trust formation whereas the bold line from risk toward the line from antecedents to trust indicates the contribution of the present article.

Figure 1. Research model



The rest of this paper is organized as follows: We first develop three hypotheses on the effect of trust and trust formation. We then introduce the reader to the research design and samples (a practitioner and a student sample) before presenting the findings from two experiments. The final part of the paper discusses the findings and no-findings as well as implications for future research.

3 Hypotheses

Risk influences the content of trust or what trust is about. Specific social situations and specific patterns of dependence present people with specific problems and opportunities, imply the relevance of specific motives and permit and afford the expression of specific behaviors and motives (Rusbult & Van Lange, 2003). Relationships of low and mutual dependence and of corresponding interests raise issues about ability and predictability but not responsiveness. Where two parties share the same goal, there is little room for the parties to demonstrate benevolence and responsiveness (Rusbult & Van Lange, 2003). Relationships of high unilateral dependence and conflicting interests on the other hand present the trustor for the risk of neglect and omission and raise issues of benevolence, concern and integrity in addition to the issue of ability and predictability (Sheppard & Sherman, 1998). Risk in the meaning of negative outcome potential, transforms the situation as viewed from the perspective of a trustor, in making some needs more salient while increasing the importance of specific attributes that mitigate these risk (Das & Teng, 2004). Thus risk in the meaning of stakes mediated by a trustee is likely to increase the trustor's unilateral dependence on a trustee. Risk thus allows for the display of pro-social motives introduces the risk of cheating, abuse, neglect and threats to self-esteem and instigate a search for properties that mitigate those risks, or more specifically concern and benevolence (Sheppard & Sherman, 1998; Das & Teng, 2004; Holmes, 2002). This leads us to the first hypothesis.

Hypothesis 1: Risk will increase the importance attached to benevolence and reduce the importance attached to ability.

The effects of risk on the salience and importance of needs and dimensions of trustworthiness influence people's search for information to the extent that people search for information that relates to salient needs and dimensions of trustworthiness. More specifically risk is posited to influence the activation of different interpretive schemas. A person- or trait

schema facilitates the interpretation of social stimuli with respect to benevolence and responsiveness. Benevolence is inherently associated with personal qualities (Mayer et al. 1995) and less readily discerned from openly displayed role behavior, thus requiring a personality analysis which is likely to be couched within a person or trait schema (Reeder & Brewer, 1979). A role schema is likely to facilitate the interpretation of social stimuli with respect to ability and reliability. Specific roles provide information about the person holding a role and his or her qualities and background (Kramer, 1999) and provide a convenient template for evaluating the ability and reliability of the trustee. Ability is here likely to be defined in terms of role-performance and to be openly displayed within the role. In-role behavior or behavior which conforms to peoples' expectation to a particular role is likely to be congruent with a role schema whereas the out-of-role behavior or behavior which fails to conform to peoples' expectation to a role schema is more likely to be congruent with a person or trait schema. The congruence of social stimuli to an activated schema is likely to increase people's subjective experience of conceptual fluency or the subjective ease of information processing. Conceptual fluency trigger a hedonic signal that influences the evaluation of stimuli and objects associated with the stimuli (Winkielman et.al, 2003). Processing fluency indicates progress toward the successful identification and recognition of a target and thus likely to elicit experiences of control in relation to the target (Winkielman et al. 2003; Carver & Scheier, 1990). Other studies show how peoples experience of control increase peoples willingness to adopt risk (Kramer, 1994; Langer, 1975). Trust was defined as an "...intention to accept vulnerability". The hedonic pleasure and experience of control associated with congruence and conceptual fluency in turn we suggest should increase trust (Winkielman et al. 2003; Schwarz & Clore, 1983, 2003). The degree of congruence between stimuli and schema depends on which schema is activated in a particular situation. Because risk influences the selective activation of interpretive schemas, congruence and thus the effect of

social stimuli on trust is likely to depend on risk. Risk thus moderates the effect of stimuli (in-role versus out-of-role) on trust.

Over time and in different orders of out-of-role and in-role behavior, risk can be thought of as having different patterns of effects. First, the different needs and dimensions can be seen as independent and unrelated, suggesting a contrasting pattern of responses. People attend selectively to features and information that are of the most relevance with respect to salient needs in a particular situation (Lazarus, 1993). People exposed to high risk respond favorably to out-of-role behavior but negatively to in-role behavior whereas people exposed to little or modest risk respond favorably to in-role behavior but negatively to out-of-role behavior. This argument is consistent with studies which show how adverse, threatening and therefore highly relevant events elicit strong, rapid and highly selective physiological, cognitive, emotional, social responses (Taylor, 1991). People attend to those stimuli that are most relevant with respect to adaptive responses (Cosmides & Tooby, 1994; Lazarus, 1993; Lazarus & Folkman, 1984).

Hypothesis 2: Trustors experiencing high subjective risk, compared to trustors experiencing less subjective risk will respond more favorably to out-of-role behavior and less favorable to in-role behavior in either sequence.

Hypothesis 3 builds on the notion that people attend sequentially to a hierarchy of needs in which the satisfaction of one need (predictability, reliability and ability) constitute a necessary but not sufficient condition for the satisfaction of a second need (benevolence). Thus Rempel et al. (1985) argue that: "... dependability is related in significant ways to...predictability", and that "...a partner's predictability is an important source of evidence from which dispositional attributions can be drawn". Rempel et al. however add that "...dependability does subsume predictability" and that "dependability goes beyond a prediction based on the stability of recurrent behaviors." (Rempel, Holmes & Zanna,

1985:97). In a similar vein, Turner (2002) suggests that people share a basic need for what he refers to as factivity which include the sense of sharing a common world for the purposes of the interaction, perceive the reality of a situation as it appears and assume that reality has an obdurate character for the duration of the encounter (Turner, 2002: 131). Factivity here resembles other needs or dimensions including predictability (Rempel et al. 1995) or situational normalcy beliefs (Zucker, 1986). Turner suggests that other needs, including trust, become problematic without a sense of factivity. Thus Turner asks if we can “...trust others when we do not sense any inter-subjectivity even if this sense is only at the minimal level of seeing another as a member of a category?” (Turner, 2002: 135). Thus, people independent of risk is likely to value reliable and predictable role performance at the beginning of a relationship (Turner, 2002; Lewicki & Bunker, 1996, Zucker, 1986; Rempel, Holmes & Zanna, 1985). People exposed to high risk will attend to issues of benevolence only after having resolved the more basic need for reliability and predictability. In-role behavior is likely to facilitate people’s attempts to understand and grasp the situation (Goffman, 1957). Whereas out-of-role behavior may be disruptive to situational normalcy beliefs or a sense of inter-subjectivity (Kiesler, 1973), out-of-role behavior is likely to facilitate trait-inferences, on the condition that a minimum level of predictability has previously been established (Rempel, Holmes & Zanna, 1985). On the basis of this we have:

Hypothesis 3: Trustors experiencing high subjective risk will compared to trustors experiencing less subjective risk respond more favorably to out-of-role behavior where out-of-role behavior follows after the in-role behavior.

4. Methodology

Two experiments were designed to test Hypothesis 1, 2 and 3 respectively. Both experiments included the same scenario, manipulations and scales but were conducted for two different samples. Experiment 1 included participants who were currently working and who

had substantial work-experience whereas Experiment 2 included full-time students with little or no work-experience. Experiment 2 was designed to test the robustness of the findings in Experiment 1 with a slightly different sample of participants.

The scenario described the contact with a consultant assisting an organization in the development of a proposal for a re-organization. This scenario was chosen for several reasons. First, the consultant-client relationship constitutes a real and important aspect of organizational life which most people are likely to be familiar with (Kubr, 1996). Second, the relationship between consultants and employees combines the social dimensions of interest here: The relationship involves risk and consequential outcomes (e.g. possible loss of employment). At the same time, the consultant is likely to be unknown to the employees, thus introducing uncertainty and ambiguity with respect to the motivation and intentions of the consultant. The experiment combined between- (2 x 2) and within- (2 manipulations) group-manipulations. The two forms of between-groups were subjective risk, which was based on the "Subjective risk" scale, (high, medium and low) and order (out-of-role behavior followed by in-role or the reverse). Finally the within-group manipulations consisted of two episodes that were either designed to represent out-of-role or in-role-behavior. Trust was measured at three intervals, before the first event (at t_0), after the first event but before the second event (at t_1) and after the second event (at t_2).

The experiment was preceded by a short introduction and instructions that were replicated on the first page of the questionnaire. The participants spent approximately 25 - 30 minutes completing the experiment. All manipulations and instructions were provided in the form of written texts and instructions provided in the questionnaire. Participants were introduced to a scenario of an imminent reorganization of a production company and asked to see themselves as working for a local unit of that company. The possible consequences of the reorganization for the unit they were told, could go both ways - the unit could receive more

resources, be downsized or altogether disbanded. To assist management in developing the change proposal the management had hired a consultant with extensive experience and expertise who was expected to exert considerable influence on the final decision. The participants would work with the consultant on developing a change proposal, as representatives of their unit.

Risk was manipulated through instructions which described the situation of the participant. The high risk manipulation included the information that the participant was likely to lose the job and would have difficulty finding new employment whereas the low risk manipulation included the information that the participant was unlikely to lose the job and would have little difficulty finding new employment. A scale measuring the participant's subjective experience of the risk (subjective risk scale) and the first of three identical trust-in-the-consultant scales followed immediately after the risk manipulation. The participants were then introduced to two behavioral episodes involving the consultant. The first episode was designed to be informative about the personal traits of the consultant (the out-of-role behavior), whereas the second episode was designed to be informative about the professional role of the consultant (the in-role behavior). The last manipulation reversed the order in which the episodes (out-of-role and in-role) were introduced.

The out-of-role behavior read:

“In a later meeting the consultant unexpectedly says. ‘I personally mean that the management of this company ought to get more involved in this process’. You notice that this deviates from the official communication of the consultancy”.

The in-role behavior read:

“In the first meeting the consultant says the following: ‘We have been through an evaluation of the process so far and found that the project needs more involvement from management of the company’. You are aware that the consultancy tends to do this type of

process-evaluations”. (“In the first...” and “In the second..” were changed depending upon the order in which the events were introduced).

The participants rated how informative the events were with respect to the role of the consultant and the personal qualities and motivations of the consultant before completing a trust-in-the-consultant scale. The next section then asked the participants to rate the importance of a series of properties associated with the consultant, for their trust in the consultant. Twelve items captured the dimensions of ability, benevolence and integrity (Mayer & Davis, 1999; Mayer et al. 1995). A series of control questions and a trusting propensity scale completed the experiment. The participants were finally debriefed and thanked for their participation.

The experiment applied a combination of new and established scales. The trust scale was adopted from Mayer & Davis (1999) and slightly adjusted to fit in with the specific context described in the experiment. The adjustments included changing the referents of trust (from top management to consultant) as well as adding a global item (“I trust the consultant”) to capture nuances in trust possibly not captured by the other four items. Three scales for the importance of ability, benevolence and integrity were developed from similar belief scales in Mayer & Davis (1999). Other scales, including the subjective risk scale and the scales for role- and person- diagnosticity were developed specifically for the experiment. The importance scales were slightly compressed when compared to the original beliefs scales, by removing two items from each of the scales, thus reducing the length of each scale from 6 to 4). Seven points Likert scales were used throughout the experiment. The wording of the scales were “completely disagree” or “completely agree” (at 1 and 7 respectively) and (for the importance scales), “of very little importance” and “highly important” (at 1 and 7 respectively).

Chronbach's alphas for initial trust (.66) as well as for the "propensity to trust"-scale (.72) were on the low side, yet consistent with previous findings (Mayer & Davis, 1999). The Integrity-scale displayed poor reliability (Chronbach alphas of .54) and was dropped from further analyses. Chronbach alphas for variables, ranged from .66 (initial trust) (propensity to trust in the student sample) to .92 (subjective risk). See Table A3 in Appendix A for a more comprehensive overview.

The experiment included three sets of manipulations. Risk was manipulated through the role descriptions. The events were further designed to be highly congruent with a role schema and incongruent with a person schema (in-role) or the reverse; incongruent with a role-schema but congruent with a person schema (out-of-role behavior). The effect of the risk manipulation was measured by a subjective risk scale whereas the effects of the behavioral events were measured by two diagnosticity scales (with respect to role and personal traits) administered immediately after each event. The manipulations worked well. The difference in subjective risk (group means) between the high-risk and the low-risk manipulation groups in Experiment 1 with the practitioner sample, was in the expected direction and highly significant in both experiments. In Experiment 1 (practitioners), $M_{\text{high risk}} = 4.13$ (SD 0.83), $M_{\text{low risk}} = 2.51$ (SD 0.86), $t(120) = 10.58$, $p < .001$. In Experiment 2 (students), $M_{\text{high risk}} = 4.13$ (SD 0.72), $M_{\text{low risk}} = 2.45$ (SD 0.71), $t(145) = 14.26$, $p < .001$.

The behavioral events (in-role and out-of-role) were designed to differ in their congruence to either a role or a person/ trait schema. The events then should differ in their perceived diagnosticity with respect to either role or personal qualities and motivations. Again the differences in diagnosticity scores were all significant and in the expected direction (all $p < .001$). As the diagnosticity measures at time t_1 and t_2 in the two orders referred to different behaviors (in-role and out-of-role), the diagnosticity of role and person should be different

between the two orders. Again, the differences between the orders proved to be highly significant in both experiments ($p < .001$).

5. Samples

The practitioner sample in Experiment 1 was made up of 122 individuals who were working full time at the time when the experiment was carried out. Of these, the majority were taking classes in part-time degree programs for working professionals at a Norwegian business school. 52.5% were women, and 46.7 % men (the remaining gave no information). The mean age was 38 (SD 8.6) with the youngest 18 and the oldest 58. Average work experience was 14.6 years (SD 8.9) ranging from no experience to 35 years. The experiment in the first practitioner sample was carried out in conjunction to classes. The data from the practitioner sample was collected over a five month period (October 19th 2004 - March 1st 2005).

The student sample in Experiment 2 consisted of 148 full-time students most of whom were in their second year of an undergraduate business degree program at a Norwegian business school (the same as above). The students were all in their early twenties with limited or no work experience. The experiment was carried out in conjunction with a mandatory course in organizational psychology held for second year students. 35.4% were women, and 64.6% men. The mean age of the student sample was 22 years (SD 1.37). The majority of the individuals in the student sample had no work experience. The distribution was as follows; 103 had no work experience, 27 had one year of work experience, 9 had two years, 4, three years and 4 had five or more years of work experience. The data from the student sample were collected on March 16th 2005.

6. Results

6.1 Results experiment 1: Practitioner sample

Hypothesis 1 was tested through t-tests for differences in independent group means. Linear regressions were performed between the manipulation checks of risk to determine the size of the effect of risk on the importance measures (R^2_{adjusted}). Hypotheses 2 and 3 suggested an interaction effect between risk (between group) and time (within-group) and were tested in a series of mixed within-between ANOVA with trust as the dependent variable. Hypothesis 2 suggested an overall interaction effect across both orders and was tested through a series of three way mixed within-between ANOVA with trust as the dependent variable. Thus the analysis included the following independent variables; risk (between) (2 or 3 levels) x order (2 levels) (between) x time (within) (3 levels).

Hypothesis 3 suggested an interaction effect of risk and time where the out-of-role behavior followed after the in-role behavior. Thus order was excluded from the analysis. Hypothesis 3 then was tested in a two-way mixed within-between ANOVA with trust as the dependent variable. The independent variables were risk (between) (2 or 3 levels) x time (within) (3 levels).

The analyses related to Hypotheses 2 and 3 were run with three groups based on the subjective risk score. The three groups were produced by having the program (SPSS 14.0) produce three equal groups based on the subjective risk score. Three as opposed to two groups were chosen to reveal interactions and variation in the data that may otherwise be lost, using only two groups. A closer inspection of the data revealed a more marked effect of subjective risk on the importance measures of ability and benevolence at more extreme levels of subjective risk, thus supporting the decision to use three as opposed to two groups.

The three groups did not differ significantly in their propensity to trust as revealed by running ANOVAS for differences in group means, $F(2, 119) = 1.32, p = .27$. Neither was any

systematic differences found in the makeup of the various groups with respect to sex, education or age.

Throughout the experiment missing entries were deleted list-wise. This builds on the assumption that entries are missing at random. Cases with and without missing values were compared on a series of variables, including assignments to experimental groups, initial trust and score on the importance scales in search of a consistent pattern, revealing no systematic deviations. Outliers were identified and inspected for traces of possible errors in the responses or in the coding. Analyses were run both with corrected (replacing extreme values with less extreme values) values and without. These corrections had little influence on the results and the original values were retained in the analyses. Means were reasonably centered (between 3.32 to 4.73) with the exceptions of the importance-scores for “ability” and “integrity” where means ranged between 5.5 and 5.73 Standard deviations similarly varied from 0.8 (“Propensity to trust) to 1.47 (importance of benevolence) with the majority of the variables in the range between 1.10 and 1.20. The scales for “Importance of ability” and “integrity” were negatively skewed. As a result the ability scale was transformed using a reflect and inverse function ($\text{importance of ability}_{\text{transformed}} = 1/(\text{K} - \text{importance of ability score})$) where K equals the largest possible value of importance of ability, her $7 + 1$). The “importance of integrity”-scale was excluded from the analysis due to poor reliability ($\alpha = .54$).

6.1.1 Results for Hypothesis 1

Hypothesis 1 stated that individuals exposed to high risk compared to individuals exposed to less risk would attach more importance to benevolence and less importance to ability. The first part of the hypothesis was supported (on a relationship between risk and the importance of benevolence), but not the second (a relationship between risk and the importance of ability).

Participants exposed to the high risk manipulation placed greater importance on benevolence compared to participants who were exposed to the low risk manipulation. Mean scores for the importance of benevolence in the two experimental groups were 5.05 (SD 1.0) and 4.41 (SD 1.46) for the high and low-risk group respectively. This difference was significant, $t(119) = 2.44, p = .008$ (one tailed test). No significant difference was found in the importance attached to ability. The mean score for the importance of ability in the two experimental groups were 5.73 (SD 1.00) and 5.73 (SD 0.90) for the high- and low risk group respectively and not significant, $t(120) = 0.048, ns$.

6.1.2 Results for Hypothesis 2

Hypotheses 2 and 3 suggested that risk would moderate relation between behavior (in-role and out-of-role) and the subsequent development of trust. Hypotheses 2 and 3 differed with respect to the hypothesized prevalence of this moderating effect. Thus, whereas Hypothesis 2 proposed an overall contrasting pattern independent of the sequence in which the behaviors (in-role and out-of-role) were introduced, Hypothesis 3 proposed a more limited moderating effect of risk on the effect of out-of-role behavior where out-of-role behavior follows *after* the in-role behavior.

Hypothesis 2 suggested that individuals experiencing high risk compared to individuals experiencing less risk would respond less favorable to in-role behavior and more favorable to out-of-role behavior. Hypothesis 2 suggested a marked contrasting pattern and should result in a highly significant multivariate interaction effect between risk and time. Hypothesis 2 was tested in a three way mixed within-between ANOVA with trust as the dependent variable. Separate analyses were run for the practitioner- and student-sample. For each of the samples analyses were run using the three subjective risk groups based on the subjective risk scale (high, medium and low). Thus the analyses included two between (risk and order) and one within group (time) independent variable. The independent variables thus were; subjective

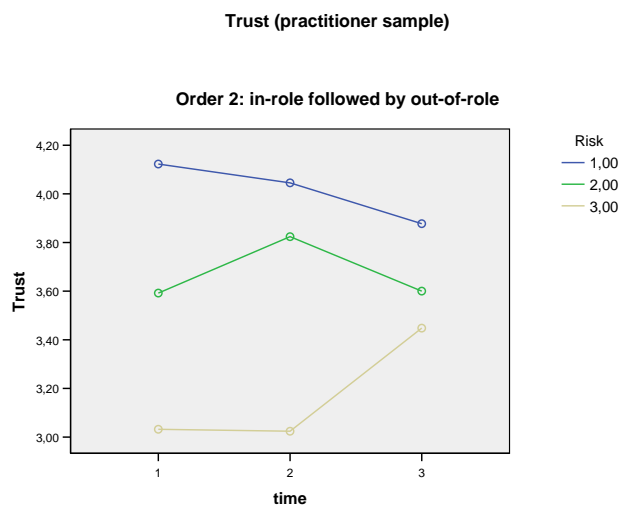
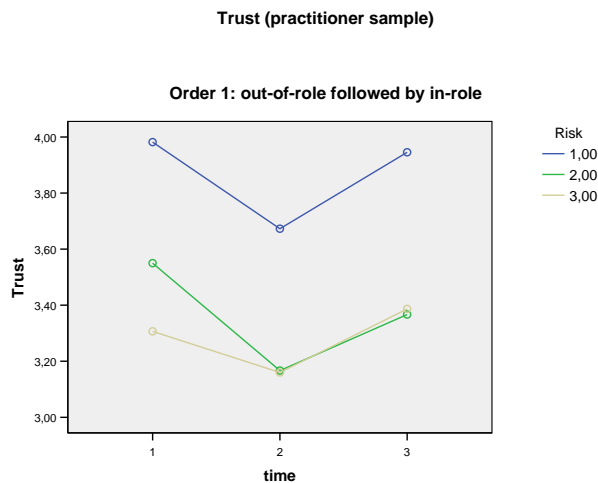
risk (3 levels) x order (2 levels) x time (3 levels). No support was obtained for Hypothesis 2 in Experiment 1.

Running the analysis with the three subjective risk groups revealed no significant main effect of time, Wilk's lambda = .977, $F(2,112) = 1.34$, $p = .266$, Partial Eta Square = .023.

With respect to Hypothesis 2 no significant interaction effect was observed between time and subjective risk, Wilk's lambda = .963, $F(4,224) = 1.053$, $p = .381$, Partial Eta Square .018.

There was further no interaction effect between time and order, Wilk's lambda = .965, $F(2,112) = 2.041$, $p = .135$, Partial Eta Square = .035. There was a significant between subjects effect of risk on trust, $F(2,113) = 5.351$, $p = .006$, Partial Eta Square = .087, but not of order, ($F(2,113) = 0.399$, $p = .529$, Partial Eta Square = .004. The trajectories with the three subjective risk groups in the practitioner sample for both orders, are shown in Figure 8 (1 = low subjective risk, 2 = medium subjective risk and 3 high subjective risk).

Figure 2. Trust in practitioner sample



6.1.3 Results for Hypothesis 3

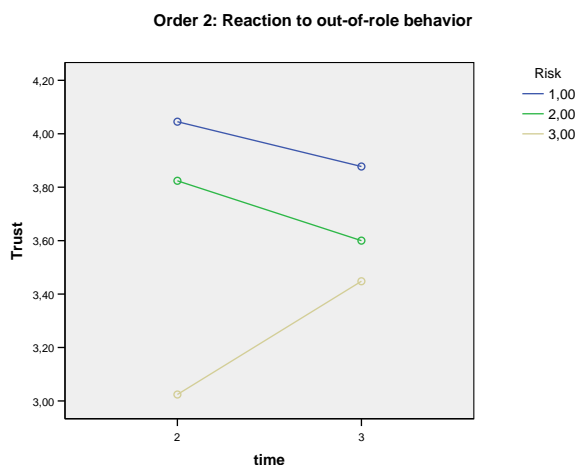
Hypothesis 3 suggested an order effect in which individuals experiencing high subjective risk should respond more favorable to out-of-role behavior where the out-of-role behavior followed after the in-role behavior, but otherwise suggested no difference. Following the logic then we should expect to see an interaction effect in the second order, where out-of-role behavior follows after the in-role behavior, and following the second out-of-role behavior.

Hypothesis 3 was tested in a two way mixed within-between ANOVA with trust as the dependent variable. As the hypothesis suggested a effect in Order 2 only (in-role followed by out-of-role behavior), order was not included in the analysis. Hypothesis 3 only suggested a

interaction effect where the out-of-role behavior follows after the in-role behavior, thus time included only two levels; t_1 and t_2 . Separate analyses were run for the practitioner sample and the student sample. For each of the samples separate runs included either the two experimental risk groups (high and low) or the three subjective risk groups. The analyses then included the following variables; subjective risk (3 groups) x time (2 levels).

Running the analysis with three subjective risk groups revealed an interaction effect between risk and time, as suggested by Hypothesis 3. With three subjective risk groups there was no main effect of time, Wilk's lambda = 1.00, $F(1,78) = 0.014$, $p = .907$, Partial Eta Square = .000. More importantly however, a significant interaction effect was observed between subjective risk and time, Wilk's lambda = .888, $F(2,78) = 4.93$, $p = .010$, Parital Eta Square = .112 thus supporting Hypothesis 3. A significant between-subjects effect was further observed for subjective risk on trust, $F(2,78) = 3.612$, $p = .032$, Partial Eta Square = .085. The trajectory with the three subjective risk groups in the practitioner sample is shown in Figure 9 (1 = low risk, 2 = medium risk, 3 = high risk).

Figure 3. Trust in practitioner sample - reaction to out-of-role behavior



To further explore the findings in Experiment 1, a series of planned comparisons were conducted to retrieve the differences between the groups (high, medium and low subjective risk). A planned comparison of the change of trust in the three subjective risk groups (one-

way ANOVA) in the practitioner sample revealed significant differences between Group 3 and the other groups (1 and 2). Thus the difference between Group 1 and 3 was highly significant, $t(78)=2.69$, $p < .01$ (one-tailed test), as was the difference between Group 2 and 3, $t(78) = 2.80$, $p < .01$ (one-tailed test). We finally compared the effect of the out-of-role behavior on Group three (high risk) when presented first (out-of-role, in-role) and when presented after the in-role behavior (in-role, out-of-role). There was a significant difference in the group-mean of change in trust following the out-of-role-behavior when presented first (in order 1) and when presented after the in-role event (in order 2), $t(38) = -2.048$, $p = .024$ (one-tailed test), $M_{order1} = -0.15$ (SD 0.58), $M_{order2} = 0.42$ (SD 0.98). Figure 13 also suggests why we did not see an interaction effect with two groups, showing how both Group 1 and 2 displayed a contrasting pattern compared to Group three, those experiencing the highest level of subjective risk.

6.1.4 Conclusion for Experiment 1

Experiment 1 found partial support for Hypothesis 1 (risk was found to increase the importance of benevolence but did not reduce the importance of ability). Hypothesis 2 obtained no support whereas Hypothesis 3 was supported.

6.2 Results experiment 2: Student sample

Experiment 2 involved the same set of analyses as Experiment 1. For similar reasons as in Experiment 1, analyses associated with Hypothesis 2 and 3, were conducted with the 3 subjective risk groups (based on the subjective risk-scale). The three subjective risk groups did not differ significantly in their propensity to trust as revealed by running ANOVAS for differences in group means, $F(2, 143) = 0.12$, $p = .89$. Missing items were deleted list-wise based on the assumption that entries are missing at random. Comparing cases with and without missing values found no systematic differences between the two. Outliers were retained for the analyses. Means were reasonably centered, ranging between 3.32 (Subjective

risk) to 4.86 (Importance of benevolence) with the exceptions of Importance of ability ($M = 5.99$) and Importance of integrity ($M = 5.55$). Assumptions of normality were tested both through inspection of graphical plots (Normal Q-Q plots) as well as tests for kurtosis and skewness. Like in Experiment 1, the scales for “Importance of ability” and “Importance of integrity” were negatively skewed. The “Importance of integrity scale” was dropped due to poor reliability while the Importance of ability scale was transformed using the same reflect and inverse function as in Experiment 1.

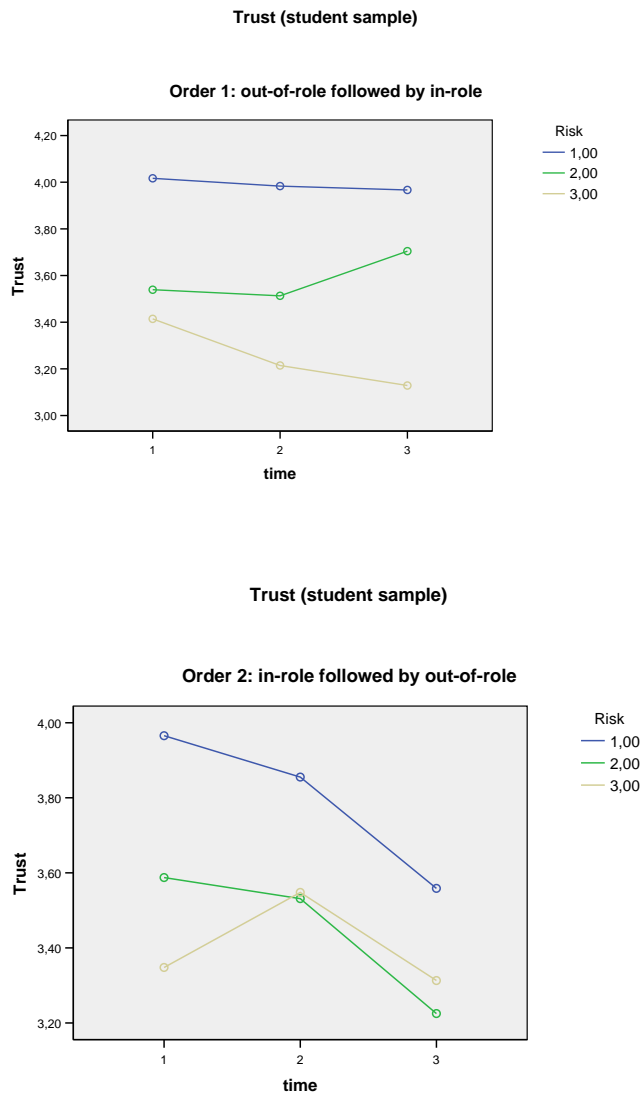
6.2.1 Results for Hypothesis 1

Hypothesis 1 was supported although the differences between the groups were small, barely reaching conventional levels of significance. For benevolence the means for the high versus low risk groups were 5.01 (SD 1.20) and 4.69 (SD 1.12), $t(143) = 1.69$, $p = .046$ (one-tailed test). For ability the means for the high versus low risk groups were 5.90 (SD 0.74) and 6.09 (SD = 0.68), $t(145) = -1.67$, $p = .049$ (one-tailed test).

6.2.2 Results for Hypothesis 2

Hypothesis 2 received no support in Experiment 2. First, there was no main effect of time, Wilk's lambda = .968, $F(2,138) = 2.304$, $p = .104$, Partial Eta Square = .032. More important with respect to Hypothesis 2, there was no significant interaction effect between time and subjective risk, Wilk's lambda = .995, $F(4,276) = .0189$, $p = .944$, Partial Eta Square = .03. No significant interaction effect was found between time and order, Wilk's lambda = .970, $F(2,138) = 2.101$, $p = .126$, Partial Eta Square = .03. As in Experiment 1 there was a significant between subjects effect of risk, $F(2,139) = 5.484$, $p = .005$, Partial Eta Square .073 but not of order, $F(2,139) = 0.187$, $p = .666$, Partial Eta Square = .007. The trajectories with the three subjective risk groups for both orders, are shown in Figure 10 (1 = low risk, 2 = medium risk, 3 = high risk).

Figure 4. Trust in student sample



6.2.3 Results for Hypothesis 3

Hypothesis 3 received no support in Experiment 2. Running the analysis with three subjective risk groups revealed a significant main effect of time, Wilk's lambda = .896, $F(1,81) = 9.409$, $p = .003$, Partial Eta Square = .104. No significant interaction effect however was observed between time and subjective risk, Wilk's lambda = .999, $F(1,81) = 0.056$, $p = .946$, Partial Eta Square = .001. There was no significant between subjects effect of risk, $F(1,81) = 1.213$, $p = .303$, Partial Eta Square .029. The trajectory with the three

subjective risk groups in the student sample is shown in Figure 11 (1 = low risk, 2 = medium risk, 3 = high risk).

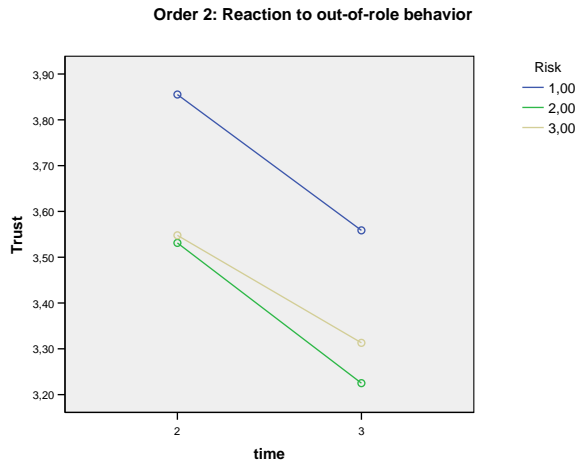


Figure 5. Trust in student sample - reaction to out-of-role behavior

6.2.4 Summary of Experiment 2.

Hypothesis 1 was supported in Experiment 2 although the effects of risk were weak. Unlike in Experiment 1 however, support was found for an effect of risk on “Importance of ability” (a suggested negative effect) as well as on “Importance of benevolence” (positive). Hypotheses 2 and 3 received no support.

7 Discussion

Together, Experiment 1 and 2 provide qualified support for the research model. Hypothesis 1 and 3 receive qualified support. Regarding Hypothesis 1, Experiment 1 found support for an effect of risk on the importance of benevolence (positive) but no support for an effect of risk on the importance of ability. In Experiment 2, differences between the high and low risk groups barely reached levels of significance (at the 5% level) in the hypothesized directions for both benevolence and ability. Hypothesis 2 suggesting an overall contrasting pattern of responses between the groups in both orders (out-of-role, in-role and in-role, out-of-

role), received no support either in Experiment 1 or Experiment 2. Hypothesis 3 received was supported in Experiment 1 but not in Experiment 2.

While hypothesis 1 received partial support in Experiment 1 and full support in Experiment 2, the effects of risk on the importance of benevolence and ability were weak and runs counter to the notion of risk radically changing the nature of trust. Several factors may explain the relatively weak effect of risk on the importance ratings. First, the weak effects may be attributed to weak manipulations. A closer inspection reveals a more marked effect of subjective risk on the importance ratings of ability and benevolence in the hypothesized direction, at more extreme values of subjective risk. This tendency was noticeable in both Experiments. Weak manipulations could mean that the experiment failed to capture the range of subjective risk in which the suggested effects of risk are more noticeable. It is conceivable then that a more effective risk manipulation by producing more extreme levels of subjective risk would have produced a more solid support for the first hypothesis.

Weak support for Hypothesis 1 may also represent an artifact of the measurement instrument. Thus, the scores for the importance of ability and benevolence may under-represent the differences as these may have appeared in real life situation. The scale presents participants to a complete list of the dimensions unlike real life situations where people are likely to think about the dimensions and properties that come to mind (unaided by the scale). Neither were the participants asked to prioritize between dimensions, thus there were no cost for marking of all items as very important. Other methods of measuring attribute importance correct for some of these liabilities. The findings however may also reflect a genuine characteristic of the relationship between risk and peoples criteria of trustworthiness. Particularly noteworthy is the non-existent effect of risk on the importance of ability in Experiment 1 (practitioner-sample). A possible interpretation is that ability is related to reliability and predictability and constitutes a necessary basis for trust for people exposed to

high or low risk (Mayer, Davis & Schoorman, 1995; Rempel, Holmes & Zanna, 1985). This relates to Sheppard & Sherman's argument (1998) that high-dependence relationships retain the risks associated with low-dependence while adding new ones. Whereas ability is likely to be important regardless of risk then, the most noticeable effects of risk should be on the importance attributed to benevolence which is consistent with the findings.

Hypothesis 2 received no support in either of the experiments. No evidence was found for a contrasting pattern of responses between the subjective risk groups. The lack of support may be attributed to several causes. Hypothesis 2 builds on two assumed relationships: First risk is suggested to influence the salience of different needs and the importance people attach to different dimensions of trustworthiness (Hypothesis 1) (Rusbult & Van Lange, 2003; Holmes, 2002; Sheppard & Sherman, 1998). Second, the shift in motivational priorities and the importance placed on ability and benevolence is suggested to cause a shift in the cognitive strategies people use in forming impressions (Hilton & Darley, 1991; Matheson, Holmes & Kristiansen, 1991; Guiot, 1977). Thus the no-finding may be explained by a non-existent or weak effect of risk on the importance attached to either ability or benevolence. While Hypothesis 1 is supported, the relationship as argued previously is not particularly strong in the experiment.

The failure to find support for Hypothesis 2 may also be ascribed to a non-existent or weak relationship between the shift in the importance attached to dimensions of trustworthiness and how people attend to and respond to behavioral episodes. People's information goals and responses to behavioral episodes could be influenced by general norms about proper conduct as well as general scripts and schemas which regulate behavior within specific situations and contexts (Fehr, 2004; Schank & Abelson, 1977). Norms or schemas to the extent that they represent stable and well integrated cognitive structures may exert greater influence on attitudes and behavior than situational variables, including risk (Hilton & Von

Hippel, 1996). Weak manipulations increases the likelihood that peoples responses will be based on general schemas and norms as opposed to characteristics of the situation (manipulation) (Fiske & Neuberg, 1990; Rotter, 1971). Finally the no-finding may suggest that the reasoning leading up to Hypothesis 2 is wrong and that Hypothesis 2 should be discarded. Thus, Hypothesis 3 suggests a more specific and limited interaction effect which would preclude us from seeing the overall contrasting pattern suggested by Hypothesis 2.

The interaction effect between risk and out-of-role behavior posited by Hypothesis 3 found support in Experiment 1 with the practitioner sample but not in Experiment 2 with the student sample. The responses to the out-of-role behavior of participants, reported medium subjective risk (negative response) differed substantially from the responses of the participants who reported the highest level of subjective risk (positive response), thus suggesting an interaction effect between risk and out-of-role behavior for very high levels of risk as opposed to more moderate levels of risk. The interaction effect observed in the practitioner sample was not replicated in Experiment 2 with the student sample. One possible interpretation would be that the observed interaction effect observed in the practitioner sample was a coincidence, implying low reliability. This would indicate a need for new and more reliable experiments. However the failure to replicate the findings in the student sample could also reflect characteristics of the participants in the student sample. Students in a business school are pursuing a study that prepares them for managerial positions. The students as a result may have difficulties adopting the position of a production worker as called for in the experiment. Instead, given their choice of education they could be expected to adopt a “managerial” perspective on the consultant that emphasize the technical role performance of the consultant (Howard, 2000). Selective recruitment, informal socialization in addition to the influence of a business school curriculum may all influence business school students to adopt a managerial perspective on the case (Lopez, Rechner & Olson-Buchanan, 2005; Thorne &

Saunders, 2002). The manipulation checks provide few guarantees that the students have adopted the position implied in the experiment. On the other hand, risk did influence the importance students attached to the various dimensions of trustworthiness, in the case of ability more so than in the case of the practitioner sample. This constitutes a more “subtle” manipulation checks than does the subjective risk scale which is more likely to reflect the actual experience of the participants in the experiment.

Other alternative variables and mechanisms that may explain the interaction effect suggested by Hypothesis 3 should be ruled out. More specifically four alternative explanations may need to be addressed: A first alternative explanation is that participants assign specific meaning to the events and respond to the content of this assigned meaning (Dirks & Skarlicki, 2004; Mayer, Davis & Schoorman, 1995). The participants then may interpret behavior as informative of the consultant’s stand with respect to different parties and interests. Displeasure with the management as in the out-of-role behavior thus may be interpreted by people experiencing high subjective risk as antagonism towards the management. In a similar vein, it is possible that the sequencing of the behavior affects the participants’ substantial interpretation of the behaviors (Asch, 1946).

Second, people may respond to the affective nature of the stimuli and the extent to which the affective content of these stimuli matches their own affective state in that situation (Pinel et al. 2006; Byrne, Clore & Smeaton, 1986; Byrne, 1971). Thus, out-of-role behavior indicating frustration may provide a better match to the affective state of people experiencing high subjective risk.

Third, risk may affect people’s willingness to accept risk with a trustee. People exposed to risk in a situation may be more inclined to accept and value risky departures from expected behavior. Because people exposed to risk may have discounted the prospects associated with the outcomes, they may see themselves as having less to lose and more to gain by what they

see as departures from the consultant's normal script of behavior. As a result they may respond more favorably to such departures than less exposed, more conservative trustors and employees.

The two experiments have several limitations that include weak manipulations, mono-operations of behavior as an independent variable and the absence of tests of mediating mechanisms implied in the development of the hypotheses. The effects of the manipulations on trust were weak. No significant overall effect of time on trust was found in either of the experiments (5%). The lack of an overall significant effect of time on trust may reflect the reality of the phenomenon studied. Thus, trust may be resilient to change in the short run. But weak effects may also reflect properties of the manipulation.

In the experiments in-role and out-of-role behavior were represented with a single exemplar each. The mono-operation of independent variables according to Cook & Campbell (1979) lowers construct validity because single operations are likely to under-represent constructs as well as contain irrelevancies that could influence the dependent variable. However increasing the number of treatments (by including different sets of behavior) is likely to lead to either very large samples or small cell-sizes (Cook & Campbell, 1979). The experiments test the relationship between variables at the extreme ends of a causal chain. Mediating relations and mechanisms described in the development of the hypotheses are not tested. This leaves open questions with respect to the causal interpretation of the findings reported here. The ability of the risk to influence the form and mode of trust development constitute a rationale for the model. Thus testing for the effect of risk on trust constitutes a necessary but not sufficient first stage in a more complete test of the model. Some findings however including the relationship between the diagnosticity measures and change in trust are consistent with the mediating mechanisms described in the development of Hypothesis 2 and 3.

Finally the two experiments raise the more fundamental question of whether the experiments really study trust at all. An argument could be made, that the trust scores merely reflect peoples likes or dislikes of the events reflected in the ratings (DuCharme, 1970). The experiment then can be seen as forcing people to evaluate these events in the form of trust whereas the same reactions could have been labeled with other constructs (Ray, 1984; Winkler, Kanouse & Ware, 1982; Orne, 1962). Speaking of trust in the case of the experimental findings however we argue, give meaning for several reasons: First, the trust scale consists of several items and people do differentiate between these items suggesting that people are not mindlessly applying a general evaluative response to the nearest scale at hand. Second, people have been shown to form judgments on the basis of very brief sections of information (Borkenau, Mauer, Rieman, Spinath & Angleitner, 2004; Lutz & Lakey, 2001). Third, trust does constitute an important element in peoples appraisal of other people in the type of situations described. The role of trust in people's appraisal and evaluation of other people comes up in a series of empirical studies of work relationships (Burt & Knez, 1996; Gabarro, 1990). Studies of situations involving conflicting interests suggest that trust constitute an immediate and salient issue in this type of interactions (Rusbult & Van Lange, 2003; Kramer, 1994).

8 Directions for further research

New studies should be aimed at improving our understanding of the relations as well as rule out alternative explanations. First, the weak effects of the manipulations in the two experiments suggest that new experiments should be designed to elicit stronger responses. Stronger stimuli could imply substituting written manipulations with other stimuli that could include film, photos or role plays. Merely strengthening the content of the written instruction may be counterproductive. If negative outcomes become expected, participants may see little reason to engage in processing of information about the trustee and may instead resort to

stereotyping and derogating the trustee (Deprét & Fiske, 1990; Insko, Schopler, Hoyle, Dardis & Graetz, 1990). Instructions involving no risk on the other hand, may cause participants to lose interest in the experiment (Fiske, 1993). The latter may result in responses that reflect highly general schemas as opposed to experimental manipulations (Fiske & Neuberg, 1990).

Second; extensions and replications of the experiments should attempt to strengthen and validate the causal argument behind the hypotheses. First, future studies may be designed to test mediating mechanisms implied but not explicitly tested in the current design, thus developing a causal chain of events to substantiate the model. A series of mechanisms are implied but not tested in the experiment. Thus, risk is suggested to influence people's construal of the situation in specific ways. Such implied effects could be tested by asking participants to rate the situation on dimensions that may include dependence or covariance of interests (Rusbult & Van Lange, 2003). The model further specifies that risk will lead to the activation of specific information goals and interpretive categories. The relation between risk and selective schema activation could be tested using implicit measures of schema activation, including measures of response latency (Fazio & Olson, 2003). Finally, the relation between schema congruence and trust could be tested through experiments that manipulate and measure congruence, fluency of processing, subjective control and trust. Such experiments may include a common set of manipulations while testing effects on different dependent variables (Spencer, Zanna & Fong, 2005).

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