

**The influence of emotions on trust in experienced betrayal situations**

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## Abstract

This article investigates the impact of different emotions on trust decisions taking the experience of betrayal into account. Thus, an experiment was created which included one betrayal group and one control group. Participants in the betrayal group experienced more intense feelings governed by negative emotions than participants in the control group did. Moreover, participants in the betrayal group significantly lowered their trusts in another stranger. In addition, our results indicated that the feeling of shame in connection with an experienced betrayal was linked to an individual's lowering of his or her subsequent trust levels. On the other hand, we found some evidence that emotional intelligence (the use-of-emotions) attenuated the relationship between experienced betrayal and subsequent trust whereas neuroticism exaggerated this relationship.

Keywords: Trust; Betrayal; Emotions

## 1. Introduction

Trust has received considerable interests from academia and business in the last two decades. There are many reasons for this since trust has been observed to be connected with many positive processes and outcomes. Gargiulo and Ertug (2006) have summarized the benefits of trust in an organization under three broad headings. First, trust can reduce the cost of monitoring and thus the number of safeguards. Second, trust can reinforce commitment in a relationship. Third, trust can lead to more open communication and to a richer exchange of resources among people. Although these benefits from trust are appealing, it is never easy for one person to trust another because of the vulnerability involved. Mayer, Davis, and Schoorman (1995) have defined trust as a person's willingness to be vulnerable to the actions of another party based on the expectation that the other party will respond according to the former's anticipation. In other words, trusting another person may open the possibility of being exploited by the latter party. Reduction in the number of safeguards may invite intrusions and over-commitment in a relationship that may lead to groupthink. Also, a richer exchange of resources may give rise to the misappropriation of sensitive information. Therefore, it is not unusual that people constantly struggle to strike a balance between trust and distrust.

This struggle is particularly intense when one faces a stranger. This is because there is no track record concerning the target's trustworthiness which a person can rely on to form his or her judgment. In this paper we attempt to demonstrate that emotion plays a part in an individual's trust in a stranger. More specifically, we argue that an experience of betrayal, which is likely to generate negative emotions, may significantly affect an individual's subsequent trust in another stranger. In addition, we try to show that some

negative emotions are more likely than others in the association with the subsequent change in trust decisions. Nonetheless, we also suggest that a person's ability or tendency to deal with emotions can make a difference in how an experience of betrayal impacts on one's subsequent trust in a stranger.

### *Emotions and Initial Trust*

There has been evidence showing that a person's emotional state is likely to influence his or her judgment relating to trust. Forgas and East (2008) have revealed that a person's suspicion of a stranger is affected by the mood he or she experiences. When asked to judge whether a stranger had committed a theft and denied the incident, sad participants were more likely than neutral and happy participants to give guilt judgments and less likely to give honesty judgments. Dunn and Schweitzer (2005) have found that a person's emotional state can affect his or her trust in a stranger. They recruited participants at a railway station and asked them to undergo an emotion induction exercise which induced anger, sadness and happiness respectively by describing a past incident. Then the participants were asked to rate the trustworthiness of a previously identified unfamiliar co-worker. The results showed that participants in the happy condition were more trusting than those in the sad and angry conditions.

### *Betrayal and Negative Emotions*

The studies above have demonstrated that moods and emotions aroused from unrelated events affect a person's trust in a stranger. We thus propose that feelings aroused from a trust-related event – a betrayal – may have a striking effect on an individual's trust in a stranger. We adopt Elangovan and Shapiro's (1998) definition of betrayal, which

describes betrayal as a violation of pivotal expectations of a trustor. Lazare (2004) has provided insights into the feelings he experienced once when he was betrayed:

“Two friends betrayed my trust over an important matter. Their lying about it only compounded my hurt. For weeks after this discovery, I was distraught and distracted from my daily activities... I began to question both my trusting approach to relationships and my overall ability to judge people” (p.16).

From the description above, two consequences arising from the incident of betrayal can be identified. First, there was an emotional impact: the author felt hurt and distraught. Second, he questioned his trusting approach and ability to judge people.

Events that harm an individual's welfare are likely to cause negative emotions (Frijda, 1988) and betrayal is likely to be one of these. The fact that betrayal can cause negative emotions has been reported in a number of studies. First, a violation of a psychological contract can be viewed as one form of betrayal because it comprises both the element of trust and the expectation that another party will fulfil his or her obligations (Rousseau, 1989; Robinson, 1996; Elangovan & Shapiro, 1998). Robinson and Morrison (2000) have discovered that when a person sees the purposeful breach of a psychological contract by another party under unfair conditions, he or she will experience strong feelings of violation. Second, Koehler and Gershoff (2003) have discovered that people reported intense negative feelings toward the manufacturer of a safety product that caused the harm it was claimed to protect them from. Other experimental studies have also revealed that betrayal is linked to negative emotions (Schweitzer, Hershey, & Bradlow, 2006; Lount, Zhong, Sivanathan, & Murnighan, 2008)

Feelings aroused from betrayal normally involve a number of negative emotions. First, when we are betrayed, most of us may feel disappointed or upset because the other party failed to meet one's expectation (Robinson, Dirks, & Ozelik, 2004). Second, anger is also aroused because of the disappointment due to the unfairness (Ekman, 2007). Third, a person may also encounter shame when betrayed because he or she thinks that his or her trust has been exploited (Robinson et al., 2004; Piper & Monin, 2006; Vohs, Baumeister, & Chin, 2007). Therefore, our first hypothesis may be stated as follows:

*H1:* An experience of betrayal will associate with negative emotions such as upset, anger and shame.

#### *Betrayal and Subsequent Trust in Other Strangers*

As Lazare (2004) recounted that his betrayal incident led to the questioning of his trusting approach, we postulate that a betrayal may affect a person's subsequent trust in other strangers. There has been evidence suggesting that once a trust is violated, it will be very difficult for a person to restore his or her level of trust before the violation (Bottom, Gibson, Daniels, & Murnighan, 2002; Schweitzer et al., 2006; Lount et al., 2008). Many of these studies investigated the effect of betrayal on subsequent trust on the same person. Nonetheless, we argue that the negative effect of betrayal on subsequent trust will also apply to other unrelated persons for two reasons. First, painful experience has been linked to counterfactual thoughts (Miller & Taylor, 2002). Counterfactual thoughts mean that a betrayed person may think that he or she would have not been in such dire situation if only he or she had not been trusting too much. Second, the effect on subsequent trust is partly due to the emotions aroused by the betrayal.

It has been recognized that the emotion system serves as an important motivational system (Smith & Kirby, 2001). Emotions arouse, sustain, and direct human actions (Salovey, Bedell, Detweiler, & Mayer, 2000) and shift a person's attention to critical features of his or her environment (Forgas, 2001; Leary, 2004). Under some circumstances, emotions also signal the need for changing one's tendency (Frijda, 1988). Negative emotions, in particular, convey information to individuals about the current situation. For example, dissatisfaction and disappointment inform a person that the maintenance of current behavior or decision is not justified (Rothman, Baldwin, & Hertel, 2004).

Empirical evidence has shown that negative emotions have an impact on decisions and judgments. Luce (1989) has reported that when a person is over-whelmed by negative emotions, he or she tends to refrain from making decisions. In the case of betrayal, this means that a person will defer the decision to trust another person whenever possible. Forgas and East (2008) have found that those who were infused with negative mood are more inclined to judge a target person guilty of an offense. This implies that negative affective state may arouse suspicion. Therefore, our second hypothesis states the following:

*H2: An experience of betrayal will lower a person's subsequent trust in a stranger.*

#### *Self-conscious Emotions and Subsequent Trust*

Nonetheless, not all kinds of negative emotions will associate with a person's lowering of subsequent trust in a stranger. In effect, we argue that only those negative emotions which lead a person to think of himself or herself will be linked to a subsequent drop in trusting others. In other words, only when a person experiences self-conscious

emotions will he or she adjust to their trusting stance. It has been recognized that the feeling of shame belongs to self-conscious emotions whereas other feelings such as anger and sadness do not.

The feeling of shame makes a person focus on the total self (Lewis, 2000). Shame afflicts one's self-esteem and leads one to an evaluation of one's worth as a person (Brown & Marshall, 2001). Hong and Bohnet (2007) have found that people who are typically considered as having high status tend to avoid betrayals and are less concerned about benefits from trust. This may be because compared to low status people, high status people are more likely to feel shame when they are betrayed. In other words, people who feel shame tend to blame themselves for causing the problem.

On the other hand, anger prompts a person to blame someone else for the undesirable situation (Wranik, Barrett, & Salovey, 2007) and to plan for revenge (Johnson-Laird & Oatley, 2000). In a Power-to-Take Game where player 1 can claim any part of player 2's resources, and player 2 can react by destroying some of these resources, it has been found that player 2 is more likely to punish player 1 by destroying the resources if anger is experienced by player 2 (Ben-Shakhar, Bornstein, Hopfensitz, & Winden, 2007). Similarly, upset makes a person feel helpless in an undesirable situation where there is little hope of improvement (Wranik et al., 2007). However, it does not necessarily lead a person to blame himself or herself. Therefore, our third hypothesis states the following:

*H3: Shame is the main negative feeling that associates with an individual's subsequent change in his or her trust in strangers after encountering a betrayal.*

*Individual Differences in Self-Regulation*



However, while we postulate that an experience of betrayal in general will negatively affect a person's subsequent trust in strangers, we still argue that there may exist individual differences in the reaction to betrayal. Parrot and Spackman (2000) have contended that a person's emotional state at the time of retrieving can redefine an event. People who are better at regulating emotions or who are less vulnerable to negative emotions are more likely than others to maintain the same level of trust in strangers. Thus, we try to discuss how emotional intelligence (EI) and neuroticism can moderate the relationship between an experience of betrayal and subsequent trust in strangers.

### *Emotional Intelligence*

As defined by Mayer and Salovey (1997), EI involves four abilities: (1) the ability to accurately perceive and express emotions of self and others; (2) the ability to generate feelings to assist thinking; (3) the ability to understand emotions and their progression; and (4) the ability to regulate and manage emotions. It has been argued that high-EI individuals are capable of reasoning accurately about their own emotions (Mayer, Salovey, & Caruso, 2008). This is because emotions are processed through both the associative processing system, which is automatic, and the reasoning system, which is deliberate (Smith & Kirby, 2001). The abilities to use, understand, and regulate emotions belong to the latter system (Pellitteri, 2002; Mayer et al., 2008). In other words, high-EI individuals are more likely to maintain their autonomy over their behaviors and judgments in the presence of emotions. Brackett, Mayer, and Warner (2004) have also reported that lower EI males are more likely to exhibit deviant behaviors, such as fighting with others and having poor relations with friends. Another empirical study has shown that emotional intelligence is inversely related to irrationality (Spörrle & Welp, 2006).

Consequently, researchers have proposed that high-EI individuals should be able to distinguish between helpful and unhelpful emotions and emotionally charged thoughts (Ciarrochi & Blackledge, 2006). They are able to alter their emotions so that undesired emotional influences on judgment are minimized (Law, Wong, Huang, & Li, 2008). They are more likely to recover from failures because of the ability to use emotion and the ability to regulate emotions (Boss & Sims, 2008). The ability to use emotions enables an individual to use helpful emotions to enhance performance. At the same time, the ability to regulate emotions enables an individual to moderate the negative emotions without exaggerating or minimizing the information they convey (Mayer & Salovey, 1997). The dual process of both allocating attention to processing information about the failure and restricting the negative emotion from impairing the information processing capacity will help to speed up the recovery from failure (Shepherd, 2003). Since a betrayal can be regarded as one form of failure, that is, a mistake in trusting the wrong person, we propose the following hypothesis:

*H4:* Individuals' EI will attenuate the interaction between an experienced betrayal and one's subsequent change in trusting strangers.

#### *Neuroticism*

Contrary to emotional intelligence, neuroticism normally associates with the inability to handle emotions. Neuroticism is one of the five domains in the Big-Five Personality Model and one of the three personality factors in Eysenck's trait theory (Eysenck, 2000). It is normally related to emotional instability (Benet-Martinez & John, 1998; Goldberg, 1990). People who are high in neuroticism are normally regarded as moody, touchy, irritable, anxious, unstable, pessimistic, and complaining (Larsen & Buss,

2002). They are constantly in a tense state while those who are low in neuroticism are comparatively more relaxed (Eysenck, 2000). Previous studies have reported that neuroticism is negatively correlated with emotional intelligence (Law, Wong, & Song, 2004; Zeidner, Roberts, & Matthews, 2008) and negative mood repair (Ng & Diener, 2009).

People high in neuroticism are less likely to believe that their emotions can be changed and more likely to believe that their own emotions are too strong to be controlled (Gross & John, 1998; John & Gross, 2007). They react more strongly to negative stimuli (Ng & Diener, 2009) and are particularly vulnerable to emotional change induced by events (Matthews, Emo, Funke, Zeidner, Roberts, & Costa, 2006). They tend to adopt problematic coping strategies like wishful thinking, withdrawal and emotion-focused coping (Connor-Smith & Flachsbart, 2007; Matthews et al., 2006). People high in neuroticism also have less tolerance for negative situations than people low in neuroticism (Wong, Yik, & Kwong, 2006). As a result, they are less likely to stick with the same course of action that generates negative emotions. In terms of betrayal and trust, we predict that people high in neuroticism will exaggerate the implication of a betrayal experience and will be more likely to switch to a more conservative approach to strangers. Therefore, our final hypothesis states the following:

*H5:* Individuals' neuroticism tendency will exaggerate the interaction between an experienced betrayal and one's subsequent change in trusting strangers.

#### Method

We conducted an experiment which contained one betrayal group and one control group. Two days before the experiment, we collected information pertaining to participants'

emotional intelligence, neuroticism scores, and other issues. During the experiment, we assessed participants' trust decisions by using both behavioral and survey measures. The intensity of various experienced emotions was also studied. In addition, a manipulation check was conducted. Moreover, data from different demographics variables were collected.

### *Participants*

Eighty-three business school students from the Norwegian School of Economics and Business Administrations were recruited as participants. They were provided with the role of trustor in two different experimental conditions. 38.6 percent of the participants were female and 61.4 percent were male. Their average age was 23.0 years. Forty participants were included in the betrayal group and the other forty-three were included in the control group.

### *Materials*

#### *Trust Game*

The trust game used implies that a trustor has Kr.40 (about 7 US dollars) on hand. Whatever amount the trustor decides to give to the trustee, the amount would be multiplied by four. The trustee, on the other hand, could decide to choose whether he or she would give half of the multiplied amount back to the trustor, or simply take the whole multiplied amount for himself/herself.

In the trust game, the rational choice for the trustee is to take the whole multiplied amount for himself/herself, as long as he or she is maximizing the monetary payoff. Knowing the rational choice of the trustee, the rational choice for the trustor will be to

keep the entire original amount and give the trustee nothing. However, trust arises if the trustor is willing to give any amount greater than zero.

#### *Measures of Trust*

Both a behavioral measure and a survey measure of trust were used at each of the two games. The behavioral measure was the amount sent by the participants in the trust game. The survey measure asked the participants to rate the following question: “*I really trusted her to share half of the amount with me*” using a 7-point Likert-type scale (from strongly disagree to strongly agree). Since the standardized coefficient alphas for the two measures of trust were .73 in game 1 and .81 in game 2 respectively, we formulated a composite measure of trust by combining the standardized scores of the behavioral measure and the survey measure in both games.

#### *Negative Emotions*

Three negative emotions – anger, shame, and upset – were measured using a 5-point scale based on the PANAS scale (Watson, Clark, & Tellegen, 1988). The scale includes the attributes “very slightly or not at all”, “a little”, “moderately”, “quite a bit”, and “extremely”. In addition to individual emotions, we also combined the three emotions into a measure of averaged negative emotions. The coefficient alpha for the averaged negative emotions for our sample was .76

#### *Emotional Intelligence*

We adopted the 16-item Wong and Law EI scale (WLEIS) of emotional intelligence (Law et al., 2004) by using 5-point Likert-type scales (from strongly disagree to strongly agree). This EI scale shares the four elements of EI proposed by Mayer & Salovey (1997) and is also classified as an ability model (Law et al., 2004). The

coefficient alpha for our sample was found to be .72 and the coefficient alphas for our sample for each of the subscales were as follows: awareness of others' emotions, .75; emotion regulation, .74; awareness of own emotions, .76; and use of emotion, .76.

### *Neuroticism*

We adopted the BFI-44 to measure the neuroticism of participants (which was reprinted in Benet-Martinez & John, 1998). We extracted the nine items which measure neuroticism by using 5-point Likert-type scales (from strongly disagree to strongly agree). The coefficient alpha for our sample was found to be .72.

### *Manipulation Check*

This is a single item measure that asked the participants the following question: “*I felt betrayed by the person in the game*” using a 7-point Likert-type scale (from strongly disagree to strongly agree).

### *Procedure*

Eighty-three participants were first asked to fill in an online questionnaire which assessed their emotional intelligence, neuroticism, and other unrelated questions. Two days later, each of them was e-mailed a unique password to participate in an online experiment which was set through the online program, Surveygizmo. The password could only be used once. This ensured that no one would participate in the experiment more than once. Also, the program restricted the participants to being able to go forward to the next page and not being able to backtrack to the pages they had visited before.

The participants were then introduced to how to play the trust game. They were given two trial games so that they were familiar with the rules. After each trial game, the calculation of payoffs under the conditions of honest and dishonest trustee was shown to

them based on their choice of amount. After the trial games, they were automatically assigned to the betrayal group or the control group but they were not informed which group they were in. Forty participants were assigned to the betrayal group and forty three participants to the control group.

### *Betrayal Group*

Participants in the betrayal group were first presented with a photo of a trustee. The trustee was an exchange student in the previous academic year. In the photo she was about to write down whether she would be willing to share half of the multiplied amounts, in case a trustor decides to give her some amount. In the description the participants were told that the person in the photo agreed to share half of the multiplied amount with them. They were asked to decide on the amount (Kr. 0; Kr.10; Kr.20; Kr.30; Kr.40) they would give her (the behavioral measure of trust). They were also asked whether they knew her name, had talked with her, or worked with her before. They were also asked to fill in the survey measure of trust at the same time.

On the next page, the photo that displayed the answer actually written down by the trustee was shown to them. The answer was that she took the whole multiplied amount herself and did not want to share with the participants.

Then on the next page participants were asked to play a second trust game. They were presented with another photo of a trustee who was about to write down her choice. This second trustee was another exchange student in the previous academic year. The same descriptions and questions were presented to the participants as in the first trust game. On the next page, the photo that displayed the answer actually written down by the

second trustee was shown to them. The answer was that she did agree to share half of the multiplied amount with the participants.

At the end of two trust games, we asked participants about the emotions they experienced at the time just before they started the second game. Having asked this question earlier might have interfered with the emotional effects (Forgas & East, 2008). They were also asked to fill in the manipulation-check question.

#### *Control Group*

In the control group, the same procedure was applied as it was done in the betrayal group except that the answer of the first game was not shown to the participants before they played the second game. In other words, participants did not know the answer of the first trustee when they played against the second trustee. All the measures were the same.

For both groups, other information such as age and gender was collected at the end.

## Results

#### *Manipulation Check*

We first conducted an independent-samples t-test on the mean scores of feeling of betrayal between the betrayal group and the control group. Participants in the betrayal group experienced a significantly stronger feeling of betrayal ( $M = 5.38$ ,  $SD = 1.48$ ) than those in the control group ( $M = 2.60$ ,  $SD = 1.20$ ;  $t(81) = 9.61$ ,  $p < .001$ ). The results confirmed that our manipulation successfully produced a sense of betrayal in the betrayal group.

#### *Hypotheses*



Hypothesis 1 stated that an experience of betrayal will associate with negative emotions. An independent-samples t-test was conducted to compare the averaged negative emotions experienced by the two groups. There was a significant difference in the scores for the betrayal group ( $M = 2.17, SD = .83$ ) and the control group ( $M = 1.29, SD = .58; t(69) = -5.57, p < .001$ ). In other words, the participants in the betrayal group experienced more negative emotions on average than did the participants in the control group. Therefore, Hypothesis 1 was supported.

Hypotheses 2 proposed that an experience of betrayal will lower a person's subsequent trust in a stranger. A two-factor mixed between-within subjects analysis of variance was conducted to assess the impact of betrayal on participants' composite trust in two trustees. We discovered that there was a significant interaction between group and trust, Wilks Lambda = .92,  $F(1, 81) = 6.64, p < .05$ . Hypothesis 2 was thus supported. For trust-rating, the mean in the betrayal group dropped from 5.27 ( $SD = 1.06$ ) in the first game to 4.70 ( $SD = 1.09$ ) in the second game, whereas in the control group it dropped only from 5.00 ( $SD = 1.59$ ) to 4.93 ( $SD = 1.47$ ). For amount-sent, the mean in the betrayal group dropped from 33.50 ( $SD = 8.93$ ) in the first game to 28.00 ( $SD = 13.44$ ) in the second game, whereas in the control group it dropped only from 31.40 ( $SD = 11.46$ ) to 29.77 ( $SD = 11.85$ ).

Before the testing of Hypothesis 3, we refer to Table 1 to see how participants changed their subsequent trust taking into account the betrayal group and the control group. First, it shows that more participants in the betrayal group decreased their subsequent trust, both in terms of trust-rating and the amount sent. Second, no one in the

betrayal group increased their subsequent trust as some did in the control group, both in terms of trust-rating and the amount sent.

*Table 1 about here*

Hypothesis 3 stated that shame is the main negative feeling that associates with an individual's subsequent change in his or her trust in strangers after encountering a betrayal. Since Table 1 shows that in the betrayal group participants either lowered their subsequent trust or remained at the same level of trust, we organized participants in the betrayal group in two categories: drop or remain. These two categories were treated as the dependent variable and each of the negative emotions was treated as the independent variable in separate logistic regression.

We first ran a logistic regression analysis in order to assess the impact of shame on the likelihood that participants would lower their trust-rating of another person in the betrayal group. The model was statistically significant,  $\chi^2(1, N = 40) = 5.53, p < .05$ , indicating that it was able to distinguish between who lowered his or her trust-rating in another person after betrayal and who did not. The model as a whole explained between 12.9% (Cox and Snell R square) and 17.4% (Nagelkerke R Square) of the variance in the change in trust and correctly classified 72.5% of the cases. The feeling of shame made a statistically significant contribution. The odd ratio was 2.11, which indicated that participants were over twice as much likely to lower their trust-rating in the second trustee for every unit increase of shame reported.

Separate logistic regression analysis, nonetheless, showed that the model was not significant when the feeling of being upset ( $\chi^2(1, N = 40) = 0.04, p = .85$ ) or angry ( $\chi^2(1,$

$N = 40$ ) = 1.75,  $p = .19$ ) was used as independent variable respectively. We therefore concluded that Hypothesis c was supported for the survey measure of trust.

In terms of the behavioral measure of trust, a logistic regression showed that the model in which shame was the independent variable was statistically significant,  $\chi^2 (1, N = 40) = 5.00, p < .05$ . The model as a whole explained between 11.7% (Cox and Snell R square) and 16.0% (Nagelkerke R Square) of the variance in the change in trust and correctly classified 72.5% of cases. The odd ratio was 2.02, which indicated that participants were over twice as much likely to lower their amount-sent in the second trustee for every unit increase of shame reported.

Similarly, separate logistic regression analysis, nonetheless, showed that the model was not significant when the feeling of being upset ( $\chi^2 (1, N = 40) = 0.04, p = .85$ ) or angry ( $\chi^2 (1, N = 40) = 1.20, p = .27$ ) was used as independent variable respectively. We therefore concluded that Hypothesis 3 was also supported for the behavioral measure of trust.

For Hypotheses 4 and 5, we tested whether the additional factors, emotional intelligence and neuroticism, would moderate the interaction between betrayal and two trust decisions. In other words, we performed a three-factor mixed between-within subjects analysis of variance for each of the additional factors. Hypothesis 4 asserted that high-EI individuals would attenuate the interaction effect between an experienced betrayal and one's subsequent trust decisions. A couple of three-factor mixed between-within subjects ANOVAs were performed to investigate whether each component of EI (continuous) or the overall EI (continuous) moderated the interaction between group (betrayal, control) and composite trust (game 1, game 2). The only marginally significant

component was the use-of-emotion, Wilks Lambda = .94,  $F(2, 79) = 2.64$ ,  $p = .08$ . It meant that use-of-emotions moderated the interaction term group x composite trust. When we separated the trust measures, we found that the use-of-emotion (continuous) significantly moderated the interaction between group (betrayal, control) and trust-rating, Wilks Lambda = .92,  $F(2, 79) = 3.40$ ,  $p < .05$ , but not amount-sent, Wilks Lambda = .96,  $F(2, 79) = 1.48$ ,  $p = .23$ . Figure 1 depicted the change in trust-rating in each group (betrayal, control) across three categories of use-of-emotion (high, middle, and low). It showed that in the betrayal group trust-rating tended to decrease less as the use-of-emotion scores increased. In other words, the use-of-emotions attenuated the impact of betrayal on trust-rating. Therefore, Hypothesis 4 was marginally supported.

*Figure 1 about here*

Hypothesis 5 postulated that individuals who scored high in neuroticism will exaggerate the impact of an experienced betrayal and one's subsequent change in trusting strangers. A three-factor mixed between-within subjects ANOVA was performed to investigate whether neuroticism (continuous) moderated the interaction between group (betrayal, control) and composite (game 1, game 2). The interaction between neuroticism x group x trust-rating turned out to be marginally significant, Wilks Lambda = .93,  $F(2, 77) = 3.07$ ,  $p = .05$ . When we separated the measures of trust, we found that neuroticism (continuous) significantly moderated the interaction between group (betrayal, control) and trust-rating, Wilks Lambda = .89,  $F(2, 77) = 4.57$ ,  $p < .05$ , but not amount-sent, Wilks Lambda = .95,  $F(2, 77) = 1.96$ ,  $p = .15$ . Figure 2 depicted the change in trust-rating in each group (betrayal, control) across three categories of neuroticism (high, middle, and low). It showed that trust-rating in the betrayal group tended to increase

sharply for those who score very high in neuroticism. In other words, neuroticism exaggerated the impact of betrayal on trust-rating. Hypothesis 5 was thus partially supported.

*Figure 2 about here*

### Discussion

Our results demonstrated that an experience of betrayal associates with negative emotions such as anger, upset and shame. This confirms the results of a previous study indicating that betrayal gives rise to negative emotions (Koehler & Gershoff, 2003). Moreover, the suggestion that tactics aimed at reducing negative emotions may be more effective in restoration of trust (Schweitzer et al., 2006) may find some support from our results.

Our results also provided empirical evidence to support the claims that an incident of betrayal by a stranger will affect a person's willingness to trust in another stranger (Bohnet & Zeckhauser, 2004; Kramer, 2006). There may be a number of reasons for the change in subsequent trust. First, the incident of betrayal may make the possibility of betrayal salient. The heightened alertness may lead the participants to be more conservative in making another trust decision. Second, some participants may have over-generalized the trustworthiness of the people based on the first incident. Nonetheless, our results also suggested that the feeling of shame played a role in the change in subsequent trust. As we predicted, shame was the only negative emotion that significantly associated with individuals' lowering of their subsequent trust after experiencing a betrayal. Therefore, the claim that those who experienced shame tend to focus and re-evaluate their own value was supported by our results.

The results also confirmed our expectations that not all individuals adjust their trust decisions in the same way in the event of betrayal. We discovered some partial evidence showing that individuals' reasoning with emotions has an impact on the relationship between betrayal and the change in subsequent trust. First, our results showed that, after encountering a betrayal, those who scored high in the use of emotions tended to be less affected by the betrayal experience, compared to those who scored low in the use of emotions. In other words, the use of emotions attenuated the impact of betrayal on subsequent trust. Second, our results showed that those who scored high in neuroticism tended to be more affected by the betrayal experience. This showed that neuroticism exaggerated the impact of betrayal on subsequent trust.

Nonetheless, the results concerning individual differences turned out to be more complicated than we had expected. First, the hypotheses relating to the use of emotions and neuroticism were significant only with regard to the survey measure of trust, but not the behavioral measure of trust. Second, we had expected that the use of emotions and neuroticism would have impact only on the betrayal group. Nonetheless, Figure 1 and 2 showed that both of them had impact also on the control group. We will try to offer some explanations to these observations.

To a certain extent, the difference in the results between the survey measure of trust and the behavioral measure was not surprising since similar difference has been found in a couple of empirical studies (Holm & Nystedt, 2008; Ben-Ner & Halldorsson, 2010). The explanation to our results could be that the behavioral measure of trust includes not only the trust motive but also other motives such as investment motive (Schweitzer et al., 2006; Ben-Ner & Halldorsson, 2010). It is thus possible that some

participants rated the target person as trustworthy but decided to pay less amount to her because of the fear of loss.

The results that the use of emotions and neuroticism had an impact on the control group in effect were perplexing. In the control group, Figure 1 depicted that those who scored high in the use of emotions tended to trust the second trustee less than the first trustee, whereas those who scored low in the use of emotions did the opposite. According to Law et al. (2008), the use of emotion is related to one's motivation to maintain positive affective state. One possible explanation is that those who scored high in the use of emotion tried to maintain their positive affective states by making preparation for the potential impact of negative emotions. In our experiment, the worst case is that a participant is being betrayed twice. Vohs et al. (2007) have reported that negative emotions were most frequently found in people who were cheated twice. Therefore, the lowering of trust in the second trustee may be a strategy that was used by those who scored high in the use of emotion to avoid the potential impact of negative emotions. On the other hand, those who scored low in the use of emotion may simply ignored the potential impact of negative emotions in their decision making.

A similar explanation may also apply to the trend depicted in Figure 2. In the control group, those who scored low in neuroticism tended to trust the second trustee less than the first trustee, whereas those who scored high in neuroticism did the opposite. Since those who scored low in neuroticism strived to maintain emotionally stable, the strategy for making preparation for the worst case may be used by them to avoid extremely negative affective-states.

It is intriguing to view the whole picture on the impact of the use of emotions and neuroticism on trust under both betrayal and control conditions. In the experiment, the first trustee was dishonest whereas the second was honest. Therefore, those who scored low in the use of emotions or high in neuroticism did a better job (i.e. trust the second trustee more than the first trustee) in the control group. Nonetheless, they performed worse in the betrayal group. On the other hand, those who scored high in the use of emotions or low in neuroticism, however, did the opposite. They performed better in the betrayal group but worse in the control group. These results may demonstrate that the use of emotions or neuroticism may have either positive or negative impacts on trust, depending on circumstances.

It was surprising to learn that EI as a whole or emotion regulation did not moderate the relationship between betrayal and the change in trust. We suspect that the time factor plays a vital role in the failure. In the case of Lazare (2004), he felt distraught for weeks. However, in our experiment, participants were asked to make another judgment immediately after the result of the first trustee was disclosed. Although the intensity of betrayal should be much stronger in Lazare's (2004) case than in our experiment, the relatively short time-span may not have been sufficient for participants to recover from the impact of betrayal.

### *Implications*

The above results imply that inside experiences of betrayal there exists an emotional component which may alter one's subsequent trust decisions. It seems that whether one is active or passive towards emotions could have an impact on how a betrayal affects one's subsequent trust. An alternative explanation of the results could be



that something more fundamental is at work: the implicit theories of emotions. Tamir, John, Srivastava, and Gross (2007) have argued that individuals are different in their beliefs about emotions. Some view emotions as fixed and thus have little incentive to try to modify them. Others, on the other hand, view emotions as malleable and believe that they possess the ability to control them. Individuals who score high in the use of emotions may be more likely to view emotions as malleable and controllable and manipulate them. Conversely, individuals who are high in neuroticism may be more likely to view emotions as fixed and not modifiable and thus remain powerless under the influence of them. A previous study has found that people who are high in neuroticism are more likely to report that their emotions cannot be changed (Gross & John, 1998).

#### *4.2 Limitations*

Although our results indicated that shame associated with the decision on whether one will adjust one's subsequent trust in stranger, they could not explain why some people were more vulnerable than others to feeling shame after an experience of betrayal. This could be related to one's motivation to protect one's self-image from failure and regret (Larrick, 1993). Those who are too obsessive about their own images may find it hard to accept that they are 'suckers'. It follows that not to be cheated again may become their top priority in the next similar encounter. In other words, the satisfaction derived from not being cheated again far outweighs the dissatisfaction derived from the missed opportunity to gain from trusting. As a result, these people tend to change their subsequent trust approach.

#### *4.3 Future Research*

Future studies may be needed to find out the role of EI in the relationship between betrayal and subsequent recovery. We propose that the time factor plays an important role for recovery and those who score high in EI may recover from a betrayal faster than those who score low. On the other hand, it may also be fruitful to investigate whether the implicit theories of emotion work as we have proposed when one faces betrayal.

### Conclusions

This article shows that negative emotions accompany a betrayal. It also shows that an incident of betrayal may substantially alter a person's subsequent trust decisions. In addition, we show that the feeling of shame is linked to a person's adoption of a more conservative stance in his or her subsequent trust. Although there is some evidence showing that EI has the attenuation effect and neuroticism has the exaggeration effect on subsequent trust after betrayal, the mechanism is more complicated than we have expected. First, the effects seem to apply only to the trust-rating but not to the amount-sent. Second, there exist also unpredicted effects on subsequent trust-rating under the control condition. Nevertheless, this paper shows that individual difference in handling emotions does have an impact on trust modified by betrayal, even though the exact mechanism may need further investigation.

## References

- Benet-Martinez, V., & John, O. P. (1998). Los cinco grandes across cultures and ethnic groups: Multitrait multimethod analyses of the Big Five in Spanish and English. *Journal of Personality and Social Psychology, 75*, 729-750.
- Ben-Ner, A., & Halldorsson, F. (2010). Trusting and trustworthiness: What are they, how to measure them, and what affects them. *Journal of Economic Psychology, 31*, 64-79. DOI:10.1016/j.joep.2009.10.001
- Ben-Shakhar, G., Bornstein, G., Hopfensitz, A., & Winden, F. v. (2007). Reciprocity and emotions in bargaining using physiological and self-report measures. *Journal of Economic Psychology, 28*, 314-323. DOI:10.1016/j.joep.2007.02.005
- Bohnet, I., & Zeckhauser, R. (2004). Trust, risk and betrayal. *Journal of Economic Behavior and Organization, 55*, 467-484. DOI:10.1016/j.jebo.2003.11.004
- Boss, A. D., & Sims, H. P. (2008). Everyone fails! Using emotion regulation and self-leadership for recovery. *Journal of Managerial Psychology, 23*, 135-150. DOI:10.1108/02683940810850781
- Bottom, W. P., Gibson, K., Daniels, S. E., & Murnighan, J. K. (2002). When talk is not cheap: Substantive penance and expressions of intent in rebuilding cooperation. *Organization Science, 13* (5), 497-513. DOI:10.1287/orsc.13.5.497.7816
- Brackett, M. A., Mayer, J. D., & Warner, R. M. (2004). Emotional intelligence and its relations to everyday behaviour. *Personality and Individual Difference, 1387-1402*. DOI:10.1016/S0191-8869(03)00236-8

Brown, J. D., & Marshall, M. A. (2001). Self-esteem and emotion: Some thoughts about feelings. *Personality and Social Psychology Bulletin*, 27, 575-584.

DOI:10.1177/0146167201275006

Ciarrochi, J., & Blackledge, J. T. (2006). Mindfulness-based emotional intelligence training: A new approach to reducing human suffering and promoting effectiveness. In J. Ciarrochi, J. P. Forgas, & J. D. Mayer (Eds.), *Emotional Intelligence in Everyday Life* (pp. 206-228). New York: Psychology Press.

Connor-Smith, J. K., & Flachsbart, C. (2007). Relations between personality and coping: Meta-analysis. *Journal of Personality and Social Psychology*, 93, 1080-1107.

DOI:10.1037/0022-3514.93.6.1080

Dunn, J. R., & Schweitzer, M. E. (2005). Feeling and believing: The influence of emotion on trust. *Journal of Personality and Social Psychology*, 88, 736-748.

DOI:10.1037/0022-3514.88.5.736

Ekman, P. (2007). *Emotions Revealed*. New York: Henry Holt and Company.

Elangovan, A. R., & Shapiro, D. L. (1998). Betrayal of trust in organizations. *Academy of Management Review*, 23, 547-566.

Eysenck, M. W. (2000). *Psychology: A Student's Handbook*. East Sussex: Psychology Press.

Forgas, J. P. (2001). Introduction: Affect and social cognition. In J. P. Forgas (Ed.), *Handbook of Affect and Social Cognition* (pp. 1-26). New Jersey: Lawrence Erlbaum Associates.

- Forgas, J. P., & East, R. (2008). On being happy and gullible: Mood effects on skepticism and the detection of deception. *Journal of Experimental Social Psychology, 44*, 1362-1367. DOI:10.1016/j.jesp.2008.04.010
- Frijda, N. H. (1988). The laws of emotion. *American Psychologist, 43*, 349-358. DOI:10.1037/0003-066X.43.5.349
- Gargiulo, M., & Ertug, G. (2006). The dark side of trust. In R. Bachmann, & A. Zaheer (Eds.), *Handbook of Trust Research* (pp. 165-186). Massachusetts: Edward Elgar Publishing.
- Goldberg, L. R. (1990). An alternative "description of personality": The big-five factor structure. *Journal of Personality and Social Psychology, 59*, 1216-1229.
- Gross, J. J., & John, O. P. (1998). Mapping the domain of expressivity: Multimethod evidence for a hierarchical model. *Journal of Personality and Social Psychology, 74*, 170-191.
- Holm, H., & Nystedt, P. (2008). Trust in surveys and games - A methodological contribution on the influence of money and location. *Journal of Economic Psychology, 29*, 522-542. DOI:10.1016/j.joep.2007.07.010
- Hong, K., & Bohnet, I. (2007). Status and distrust: The relevance of inequality and betrayal aversion. *Journal of Economic Psychology, 28*, 197-213. DOI:10.1016/j.joep.2006.06.003
- John, O. P., & Gross, J. J. (2007). Individual differences in emotion regulation. In J. J. Gross (Ed.), *Handbook of Emotion Regulation* (pp. 351-372). New York: The Guilford Press.

- Johnson-Laird, P. N., & Oatley, K. (2000). Cognitive and social construction in emotions. In M. Lewis, & J. M. Haviland-Jones (Eds.), *Handbook of Emotions* (pp. 458-475). New York: The Guilford Press.
- Koehler, J. J., & Gershoff, A. D. (2003). Betrayal aversion: When agents of protection become agents of harm. *Organizational Behavior and Human Decision Processes*, 90, 244-261. DOI:10.1016/S0749-5978(02)00518-6
- Kramer, R. M. (2006). Trust as situated cognition: an ecological perspective on trust decisions. In R. Bachmann, & A. Zaheer (Eds.), *Handbook of Trust Research* (pp. 68-84). Massachusetts: Edward Elgar Publishing.
- Larrick, R. P. (1993). Motivational factors in decision theories: The role of self-protection. *Psychological Bulletin*, 113, 440-450.
- Larsen, R. J., & Buss, D. M. (2002). *Personality Psychology: Domains of Knowledge about Human Nature*. New York: McGraw-Hill.
- Law, K. S., Wong, C. S., & Song, L. J. (2004). The construct and criterion validity of emotional intelligence and its potential utility for management studies. *Journal of Applied Psychology*, 89, 483-496.
- Law, K. S., Wong, C. S., Huang, G. H., & Li, X. (2008). The effects of emotional intelligence on job performance and life satisfaction for the research and development scientists in China. *Asia Pacific Journal of Management*, 25, 51-69. DOI:10.1016/S0749-5978(02)00518-6
- Lazare, A. (2004). *On Apology*. New York: Oxford University Press.

- Leary, M. R. (2004). The sociometer, self-esteem, and the regulation of interpersonal behavior. In R. F. Baumeister, & K. D. Vohs (Eds.), *Handbook of Self-Regulation* (pp. 373-391). New York: The Guilford Press.
- Lewis, M. (2000). Self-conscious emotions: Embarrassment, Pride, Shame, and Guilt. In M. Lewis, & J. M. Haviland-Jones (Eds.), *Handbook of Emotions* (pp. 623-636). New York: The Guilford Press.
- Lount, R. B., Zhong, C.-B., Sivanathan, N., & Murnighan, J. K. (2008). Getting off on the wrong foot: The timing of a breach and the restoration to trust. *Personality and Social Psychological Bulletin*, 1601-1611. DOI: 10.1177/0146167208324512
- Luce, M. F. (1989). Choosing to avoid: Coping with negatively emotion-laden consumer decisions. *Journal of Consumer Research*, 24, 409-433.
- Matthews, G., Emo, A. K., Funke, G., Zeidner, M., Roberts, R. D., & Costa, P. T. (2006). Emotional intelligence, personality, and task-induced stress. *Journal of Experimental Psychology*, 12, 96-107. DOI:10.1016/S1076-898X(06)60241-4
- Mayer, J. D., & Salovey, P. (1997). What is emotional intelligence? In P. Salovey, & D. Sluyter (Eds.), *Emotional Development and Emotional Intelligence: Implications for Educators* (pp. 3-31). New York: Basic Books.
- Mayer, J. D., Salovey, P., & Caruso, D. R. (2008). Emotional intelligence: New ability or eclectic traits? *American Psychologist*, 63, 503-517. DOI: 10.1037/0003-066X.63.6.503
- Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An integrative model of organizational trust. *Academy of Management Review*, 20, 709-734.  
DOI:10.2307/258792

- Miller, D. T., & Taylor, B. R. (2002). Counterfactual thought, regret, and superstition: How to avoid kicking yourself. In T. Gilovich, D. Griffin, & D. Kahneman (Eds.), *Heuristics and Biases* (pp. 367-378). New York: Cambridge University Press.
- Ng, W., & Diener, E. (2009). Personality differences in emotions: Does emotion regulation play a role? *Journal of Individual Differences, 30*, 100-106.  
DOI:10.1027/1614-0001.30.2.100
- Parrot, W. G., & Spackman, M. P. (2000). Emotion and memory. In M. Lewis, & J. M. Haviland-Jones (Eds.), *Handbook of Emotions* (pp. 476-490). New York: The Guilford Press.
- Pellitteri, J. (2002). The relationship between emotional intelligence and ego defense mechanisms. *The Journal of Psychology, 136*, 182-194.  
DOI:10.1080/00223980209604149
- Piper, F., & Monin, N. (2006). Beneath the masks: A critical incident focus on the emotions experienced in the worker/supervisor relationship. In W. J. Zerbe, N. M. Ashkanasy, & C. E. Hartel (Eds.), *Research on Emotion in Organizations* (Vol. 2, pp. 81-106). San Diego: JAI Press.
- Robinson, S. L. (1996). Trust and breach of the psychological contract. *Administrative Science Quarterly, 41*, 574-599.
- Robinson, S. L., & Morrison, E. W. (2000). The development of psychological contract breach and violation: a longitudinal study. *Journal of Organizational Behavior, 21*, 525-546. DOI:10.1002/1099-1379(200008)21:5



- Robinson, S. L., Dirks, K. T., & Ozelik, H. (2004). Untangling the knot of trust. In R. M. Kramer, & K. S. Cook (Eds.), *Trust and Distrust in Organizations: Dilemmas and Approaches* (pp. 327-341). New York: Russell Sage Foundation.
- Rothman, A. J., Baldwin, A. S., & Hertel, A. W. (2004). Self-regulation and behavior change: Disentangling behavioral initiation and behavioral maintenance. In R. F. Baumeister, & K. D. Vohs (Eds.), *Handbook of Self-Regulation* (pp. 130-150). New York: The Guilford Press.
- Rousseau, D. M. (1989). Psychological and implied contracts in organizations. *Employee Responsibilities and Rights Journal*, 2, 121-139. DOI: 10.1007/BF01384942
- Salovey, P., Bedell, B. T., Detweiler, J. B., & Mayer, J. D. (2000). Current directions in emotional intelligence research. In M. Lewis, & J. M. Haviland-Jones (Eds.), *Handbook of Emotions* (pp. 504-520). New York: The Guilford Press.
- Schweitzer, M. E., Hershey, J. C., & Bradlow, E. T. (2006). Promises and lies: Restoring violated trust. *Organizational Behavior and Human Decision Processes*, 101, 1-19. DOI:10.1016/j.obhdp.2006.05.005
- Shepherd, D. A. (2003). Learning from business failure: Propositions of grief recovery for the self-employed. *Academy of Management Review*, 28, 318-328.
- Smith, C. A., & Kirby, L. D. (2001). Affect and cognitive appraisal processes. In J. P. Forgas (Ed.), *Handbook of Affect and Social Cognition* (pp. 75-94). New Jersey: Lawrence Erlbaum Associates.
- Spörrle, M., & Welpel, I. M. (2006). How to feel rationally: Linking rational emotive behavior therapy with components of emotional intelligence. In W. J. Zerbe, N. M.

- Ashkanasy, & C. E. Hartel (Eds.), *Research on Emotion in Organizations* (Vol. 2, pp. 291-321). San Diego: JAI Press.
- Tamir, M., John, O. P., Srivastava, S., & Gross, J. J. (2007). Implicit theories of emotion: Affective and social outcomes across a major life transition. *Journal of Personality and Social Psychology, 92*, 731-744. DOI:10.1037/0022-3514.92.4.731
- Vohs, K. D., Baumeister, R. F., & Chin, J. (2007). Feeling duped: emotional, motivational, and cognitive aspects of being exploited by others. *Review of General Psychology, 11*, 127-141. DOI:10.1037/1089-2680.11.2.127
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology, 54*, 1063-1070.
- Wong, K. F., Yik, M., & Kwong, J. Y. (2006). Understanding the emotional aspects of escalation of commitment: The role of negative affect. *Journal of Applied Psychology, 91*, 282-297. DOI:10.1037/0021-9010.91.2.282
- Wranik, T., Barrett, L. F., & Salovey, P. (2007). Intelligent emotion regulation: Is knowledge power? In J. J. Gross (Ed.), *Handbook of emotion regulation* (pp. 393-407). New York: The Guilford Press.
- Zeidner, M., Roberts, R. D., & Matthews, G. (2008). The science of emotional intelligence current consensus and controversies. *European Psychologist, 13*, 64-78. DOI:10.1027/1016-9040.13.1.64

Table 1  
*Participants' Change in Trust from the First to the Second Trust Game (In Percentage)*

	Betrayal Group	Control Group
<i>Trust Rating</i>		
Decrease from the First to the Second Game	42.5%	18.6%
Same in both Games	57.5%	69.8%
Increase from the First to the Second Game	0%	11.6%
<i>Amount Sent</i>		
Decrease from the First to the Second Game	37.5%	14.0%
Same in both Games	62.5%	79.1%
Increase from the First to the Second Game	0%	7.0%

*Figure 1 The Impact of the Use-of-emotions on the Change in Trust-rating across Two Groups*

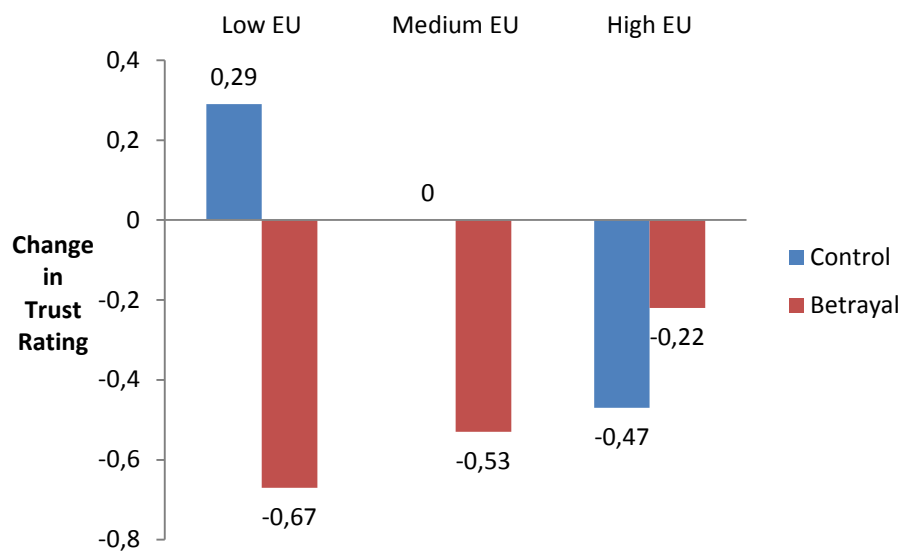


Figure 2 The Impact Neuroticism on the Change in Trust-rating across Two Groups

