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Abstract

Apology is an important tool for the maintenance of positive and cooperative relationships in the workplace. This paper reviews the existing research in the field of apology, and identifies four main components of apology. It uses impression management theory and signaling theory to explain the effect of apology. In addition, it proposes moderating effect of the offender's facial dominance on the effectiveness of apology. Specifically, Previous research (e.g., Perrett et al., 1998) found that people with high facial dominance are less trustworthy, which suggests that apology may act as an equalizer between people with high and low facial dominance. Through application of signaling and impression management framework it generates concrete predictions about the apology outcomes.

Scenario-based within-subject Study 1 revealed that offers of compensation are the most effective type of apology in workplace context. Offers of compensation are even more effective when used by people with high facial dominance as compared to people with low facial dominance. Our analysis also showed that perceived sincerity of apology is the underlying mechanism that explains these differences. Between-subject Study 2 used behavioral measures of trust restoration. Using PDG paradigm, one hundred forty three participants experienced defection during their

interaction with dominant versus non dominant partner and offered different types of apologies or no apology. While the results suggested people reacted differently on no apology vs. apology conditions, we did not find any differences between different types of apology, which suggests that there might be difference between our beliefs about how we would react to different apologies (results of Study 1), while we do not make these distinctions in real situations (results of Study 2). Implications of these findings for Impression Management and Signaling theory are discussed. In addition, we proposed practical implications of our findings.

Keywords: apology, dominance, face, signaling theory, trust repair

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Chapter 1: Introduction

Working in an organization involves encountering conflicts, and being able to deal with them effectively and constructively can be a considerable help to one's career. Maintenance of positive and cooperative relationships in the workplace can increase individual and collective productivity (De Dreu, 2008). Failure to do so leads to mistrust, hostility, and revenge-seeking behavior, which ultimately diverts one's resources and leads to decrease in performance. For example, in their review Aquino, Grover, Goldman and Folger (2003) argued that damaged work relationships and related anger and resentment have a debilitating effect on performance and productivity whenever people must work on interdependent tasks. Therefore the authors made an appeal to all people in managerial positions to make forgiveness in the workplace one of their top concerns (Aquino, Grover, Goldman, & Folger, 2003). Many times, what makes difference between the cycle of mistrust and retaliations and a restoration of productive relationship is an adequate apology (Lazare, 2004; Long & Brecke, 2003).

However, the success of an apology is not determined only by its content, but also by other aspects of the particular situation. Scholars have looked at factors such as personality of the offender and of the victim (e.g., Schmitt, Gollwitzer, Förster & Montada, 2004), but sometimes the involved parties do not have enough time to create such a complex impression of each other. In these situations, the appearance of the offender, or more specifically the characteristics of his or her facial features will be the most salient source of his or her impression. This impression is then bound to influence the victim's reaction to the uttered apology.

Chapter 2: Definition of Apology

In his classical work Goffman (1971)defined apology as a "gesture through which an individual splits himself into two parts, the part that is guilty of an offense and the part that dissociates itself from the delict and affirms a belief in the offended rule" (p. 113). This suggests that the main function of apology is to persuade the audience that the transgression is not representative of the offender's character, and therefore that he or she should not be judged based on it. The goal is to improve the offender's impression. In addition to this, Goffman also presented apology as one category of remedial devices, whose function is to regulate social situations. There are three ways a victim can react to the transgression: by revenge, forgiveness, or reconciliation. All these can be perceived as the victim's attempts to cope with the event of transgression (Aquino et al., 2003; Aquino, Tripp, & Bies, 2006). Revenge includes all kinds of aggressive behavior that are aimed on the offender. The main difference between forgiveness and reconciliation is that forgiveness is an intrapersonal phenomenon characterized by neither seeking any revenge on the offender, nor reestablishing any positive or trusting relationship with the offender. Reconciliation, on the other hand, is an interpersonal phenomenon, which includes the rebuilding of mutual trust. From this point of view, apology is one of the means of striving for reconciliation and trust enhancement (Lewicki & Polin, 2012), and the goal to rescue the relationship is emphasized over mere saving of the offender's face.

Lazare (2004) proposed that apology is an encounter between two parties: the offender and the victim. During this encounter, the offender acknowledges the responsibility for an offense and expresses regret or remorse for it. In this study I will define apology as one of the tactics of impression management of the offender

(Ohbuchi, Kameda, & Agarie, 1989; Schlenker & Darby, 1981), which is characterized by specific type of verbal content, and whose goal is to enhance trust between parties after some transgression occurred.

Chapter 3: Apologies, Excuses, and Justifications and how to Distinguish Them

There are more than one tactic of impression management available to the offender. The main difference between these tactics is in the content of their verbal accounts. From this perspective I can differentiate apologies from excuses and justifications. The distinguishing feature of *apology* is that it acknowledges the damage to the relationship (Tomlinson, Dineen, & Lewicki, 2004), accepts responsibility for the damage, and expresses the offender's remorse for the transgression (Conlon & Murray, 1996). *Justification* also accepts responsibility for the incident. However, justification denies negative quality of the event (Riordan, Marlin, & Kellogg, 1983). In other words, it reframes or reinterprets the act so it is more socially acceptable. Typical examples of justifications include attempts to downplay the severity of the problem and claims of good underlying intentions.

Excuses do not try to minimize the severity of the transgression; instead, they admit that the act was reprehensible, but at the same time the transgressor tries to shake off the responsibility for the event (Riordan et al., 1983; Schlenker, Pontari, & Christopher, 2001). Excuses deny either intentions to produce the negative consequences or the offender's control over his or her action (Riordan, Marlin & Kellogg, 1983). A typical example of an excuse is a situation where the offender claims that the transgression was not his or her fault because he or she was following

another person's instructions and therefore cannot be held responsible.

As compared to these three types of verbal accounts that were discussed above, Lewicki and Polin (2012) distinguished excuses, explanations, and apologies. Their conceptualization of excuses and apologies is in accordance with other authors; however, *explanations* were defined as "verbal accounts that attempt to offer reasons and rationales for why a particular past action has occurred" (p. 105). In my opinion, this category is a bit ambiguous. The first reason is that both justifications and excuses could be categorized as explanations, and therefore it is difficult to distinguish them from each other. In addition, many authors (e.g., Lazare, 2004; Ohbuchi et al., 1989; Schmitt, Gollwitzer, Förster, & Montada, 2004) include explanation as one of the components of apology. Ultimately, apologies, excuses, and justifications can all be perceived as different tactics of improvement of one's impression in the eyes of victim, with a specific mechanism of their effect. Explanation, on the other hand, does not have a clear tactical effect on offender's impression, unless it takes the form of justification, excuse, or apology.

Another tactic of impression management that is frequently included in the literature is *denial* of the transgression or offense. As compared to excuses, justifications, and apologies, denials refuse to admit the existence of the transgressing event, any participation on it, or any knowledge of it. From this perspective, denials might be relatively close to excuses, because they can be accompanied with condemnation of the transgression event, if it had happened. However, it is important that this condemnation is only conditional or hypothetical, because the denier claims complete ignorance of the incident. As a result, the denier's impression and the

relationship with the accuser cannot be legitimately influenced by the event.

In terms of effect on the trust repair, the research shows mixed results. Sigal, Hsu, Foodim, and Betman (1988) showed that denial of misconduct is more effective than apology in integrity-related transgressions. Similarly, Ferrin, Kim, Cooper, and Dirks (2007) demonstrated that while denial is more successful for integrity-based transgressions (e.g., intentional accounting violation), apologies are more effective for competence-based transgressions (e.g., accounting violation due to mistake). This is a result of cognitive biases, where people tend to emphasize positive information about performance over negative information (i.e., competence based transgressions), while they have the opposite tendency in actions concerning moral integrity of a person. The problem with these studies is that judges, whose task was to create an impression of the offender, were not direct victims of the offender's transgression (e.g., Ferrin, Kim, Cooper & Dirks, 2007). Therefore, the studies dealt with impression management in front of an audience rather than in the eyes of the victim. In situations where the judge is also the victim, the effectiveness of denial is limited by the existence of plausible alternative explanations of the occurrence of the event. If there is no plausible alternative explanation, the trusting relationship between the involved parties will be negatively affected, because this impasse implies that one of the parties is not sincere in their claims.

In terms of effectiveness of excuses and justifications, some studies suggest that excuses are more effective than justifications, at least in the case of integrity-based transgressions (Riordan, Marlin & Kellogg, 1983). However, they still seem to have a negative effect on a perceived moral characteristics of the offender (Schlenker,

Pontari & Christopher, 2001).

Chapter 4: Motivation to Apologize

Lazare (2004) provided an account of possible motivations that can underlie offender's tendency to apologize for a transgression. First, tendency to apologize can stem from emotional factors, where the offender is motivated by the experience of shame, guilt, and empathic regard for victim. Research has shown that when people act against their internalized norms, they are likely to experience guilt and other negative self-related affects (Baumeister, Stillwell, & Heatherton, 1994; Monteith, Devine, & Zuwerink, 1993), which consequently leads to corrective behavior (Monteith, 1993). Further, an offender can be motivated by the desire to restore the relationship and to avoid further damage to the relationship because of the value of the relationship itself. Offender's need for social inclusion can become salient after a damaging event, which leads to the fear of abandonment and social exclusion (Leary, Tambor, Terdal, & Downs, 1995). An offender can be also motivated by the prospect of negative consequences of the victim's reaction to the transgression. Empirical research has supported the claim that people have a natural tendency to punish and retaliate, even at their own cost (Sigmund, 2007). These motives are essentially economical, because in long term, cooperation is frequently much more advantageous than mistrust or retaliation (Dirks & Skarlicki, 2009), and people are generally motivated to maximize their reward-cost ratios in social relationships (Leary & Kowalski, 1990; Schlenker, 1980). Finally, apology can be motivated by strictly external sources, such as pressure of social norms and impression in front of others

(E. Fehr, Fischbacher, & Gächter, 2002).

Chapter 5: Mechanisms of Effect of Apology

The most commonly used model of the effect of apology perceives apology as a part of impression management. Impression management is defined as a "conscious or unconscious attempt to control the images that are projected in real or imagined social interactions" (Schlenker, 1980, p. 6); in other words, it describes situations where a person tries to influence the way he or she is perceived by others. There are two classes of impression management: assertive and defensive impression management tactics (e.g., Ellis, West, Ryan, & DeShon, 2002). Assertive tactics try to evoke interpersonal liking, attraction, and perceptions of competence (Stevens & Kristof, 1995). Defensive tactics defend or repair one's image, and include excuses, justifications, and apologies. Within this framework, the function of apology is to improve the transgressor's impression by dissociating him or her from the transgression event itself (Goffman, 1971; Schlenker & Darby, 1981). This is achieved by communication of the offender's psychological state that is incompatible with the transgression and its reoccurrence in the future (Scher & Darley, 1997). For example, communication of guilt shows that the offender shares social norms and values that condemn the transgression event (Scher & Darley, 1997), and that these norms are internalized enough to cause aversive reaction when they are transgressed (Monteith et al., 1993).

Research has also shown that these negative self-related emotions increase sensitivity to the related actions in the future, which essentially prevents reoccurrence

of the transgression in the future (Monteith, 1993). This mechanism creates an impression of the offender as a person who will adhere to the shared social norms (Ohbuchi, Kameda & Agarie, 1989, Scher & Darley, 1997). Schmitt, Gollwitzer, Förster, and Montada (2004) included an additional step in the mechanism of the effect of apology, where the victim creates a mental representation of the offender's apology, and this mental representation then influences the impression of the offender. Impression management research has also shown that in addition to the improvement in the offender's impression, apologies mitigate the victim's emotional response to the transgression and offender, which consequently leads to reduction of aggressive behavior of the victim (Ohbuchi et al., 1989; Schmitt et al., 2004).

Clinically oriented scholars focused on the needs that the transgression elicits in the victim. From this perspective, apologies repair relationships through the satisfaction of these needs (Lazare, 2004). Victims suffer from the loss of power (Shnabel & Nadler, 2008), which leads to the need for restoration of self-respect and dignity, need of assurance of safety in their relationships (Baumeister et al., 1994), and need to see the offender suffer (Ohbuchi et al., 1989). In addition, the transgression affected the impression of the offender, which leads to the need of assurance that both parties share the same values. Also, the transgression caused damage to the victim, which leads to the need of reparation for the harm caused by the offense. It also seems that different types of transgressions are more likely to elicit different needs. For example, Reb, Goldman, Kray, and Cropanzano (2006) found that procedural injustice (unfair treatment) is related to need for control, while interactional injustice (lack of respect for individual) is more likely to induce need for

meaning. The satisfaction of these needs then influences the victim's willingness to forgive and reconcile.

Lastly, there is the more behavioral approach of signaling theory (Long & Becke, 2003). Signaling theory deals with situations in which cooperation can provide better outcomes than individual effort. However, these situations also present an inherent increased risk of exploitation. Therefore, every involved party does not want to cooperate unless the other parties are intending to cooperate too. This leads to a pressure on every aspiring cooperator to be able to accurately identify behavioral intentions of the other party (Krebs & Dawkins, 1984). However, the task of communication of honest intentions is made difficult by the fact that there is always an advantage in the ability to feign the intention to cooperate while actually intending to exploit the other party (Fridlund, 1991). Therefore, the only viable signals of cooperation are the ones that are relatively hard to fake. This scenario is clearly applicable to the situation following transgression, when the offender is trying to apologize and thus repair the relationship. The victim does not want to reconcile with someone who is likely to transgress again in the future. The main aim of the offender is therefore to reestablish trust; in other words, to persuade the victim that any other incident of transgression will not repeat in the future. Signaling theory hypothesizes that the best way to (re)establish a cooperative relationship is by communicating signals that are either out of the signaler's voluntary control or that provide a measure of commitment to the intention to cooperate. In other words, effective signals have to be either uncontrollable (Fridlund, 1991; Zahavi, 1975), or costly for the signaler (Zahavi, 1975). Long and Becke (2003) applied this framework directly on the

problem of apology. They identified four factors that constitute signals that provide a measure of commitment to the pursuit of trust repair in the situation of apology: novelty, vulnerability, voluntariness, and irrevocability. Novel signals are reliable because of the cognitive effort invested in them serves as a measure of commitment. Vulnerability in front of the victim is reliable, because it gives victim power and control over the situation, and thus it can be potentially costly for the offender. Voluntariness means that the offender is apologizing out of his or her own initiative. Voluntariness and irrevocability are costly, because they prevent any possibility of denial.

Chapter 6: Components of Apology

The content of verbal account of apology can be further differentiated into components of apology. The probability that these components will be used depends on the situational factors of the particular apology, such as nature and seriousness of the transgression (e.g., Schlenker & Darby, 1981), or former mutual relationship between the parties (e.g., Tomlinson et al., 2004). The first attempt to systematically map these components is usually credited to Goffman (1971). Goffman differentiated following components of apology: expression of embarrassment, acknowledgment of transgression of a conduct and sympathy with application of negative sanction, verbal rejection and disavowal of the wrong conduct and self-castigation of the self that so behaved, adoption and advocacy of the right way and forbearance, and penance and volunteering of compensation. These components present more refined tools, whose purpose is to remedy different aspect of the transgression's impact on the relationship

between offender and the victim. While most authors describe Goffman's five components of apology as their primary source of inspiration (e.g., Schlenker & Darby, 1981; Schmitt et al., 2004), even a brief glance on a comparison Table 1 testifies about little consistency amongst authors. In the following text, we will try to pinpoint some reoccurring themes.

All the frequently used components of apology can be divided into four categories: **cognitive, empathy, empowering, and compensating component** (cf. Fehr & Gelfand, 2010). The core of **cognitive** category is the *acknowledgment of the transgression* and related *acknowledgment of the responsibility for the transgression*. These components include correct identification of the transgression event and of the relevant social norm (Scher & Darley, 1997). Further, the roles of the two involved parties should be appropriately identified as offender and victim, which prevents doubts and unclarity about the responsibility for the transgression. Offender should also adequately recognize a level of seriousness of the transgression with its consequences as perceived by the victim (Schlenker & Darby, 1981). The correct identification of transgressed social norms, acknowledgment of responsibility, appropriate level of seriousness assigned to the transgression, and other cognitive aspects may serve as a reliable signal for the victim that the offender shares the same social values. Its reliability lies in the fact that it would be hard to describe the victim's representation of the incident without sharing the same values and norms (Long & Becke, 2003).

Lazare (2004) derived his components as answers to particular victim's needs. Acknowledgments of transgression and responsibility answer the victim's need for

assurance that both parties have shared values, and the need of assurance that the transgression was not victim's fault. Schmitt, Gollwitzer, Förster, and Montada (2004) showed that victim's satisfaction with offender's expression of cognitive component has the strongest remedial effect on victim's emotional response to the transgression and on offender's impression. Fehr and Gelfand (2010) used similar component of apology, but while they confirmed significant positive effect of this component on victim's forgiveness, this effect was relatively smaller than the effect of emotional and compensating components. Similarly, Scher and Darley (1997) found that cognitive components are relatively equally effective as other components of apology, in terms of offender's impression improvement and improvements in victims affective reactions. It would be tempting to argue that this difference is caused by the differences in the used scenarios and overall design. Nevertheless, all three described studies used very similar informal and friendly scenarios therefore this cannot account for the observed differences in results. This could mean that the model tested in the studies is missing some important variable, which is responsible for this additional variance in the data. In addition, the similarity of used scenarios leads to difficulties with generalizability of the presented findings. It is entirely possible that transgression within organizational context might lead to increased salience of social norms and rules as compared to more informal context (R. Fehr & Gelfand, 2010), which would increase the importance of cognitive component in the apology. At this point we have to conclude that we do not have enough evidence neither to resolve these contradicting findings, nor to be able to identify specific implications for broader contexts of apologies in more or less formal environments.

The second category of components of apology pertains to offender's and victim's **emotions**. *Expressions of remorse and empathy* belong to this category. Their function is to show that the offender experiences negative self-related affects as a result of the transgression, which indicates that he or she has internalized the relevant social norms, and therefore that the transgression is not going to repeat in the future (Baumeister et al., 1994; Monteith et al., 1993; Monteith, 1993). In addition, negative self-directed emotions serve as self-punishment that helps to regulate behavior with respect to internalized norms and values (Monteith, 1993). In terms of impression management, these expressed self-directed negative emotions create a dissociation between the impression of the offender and the transgression in the perspectives of victim. In other words, it shows that the offender disapproves of the transgression (Monteith et al., 1993), and therefore he (she) should not be judged based on the transgression (Scher & Darley, 1997). This way, it should lead to improvement of offender's impression (Ohbuchi et al., 1989; Scher & Darley, 1997).

From the signaling theory perspective, emotional components of apology could be perceived as a reliable signal of future cooperation and adherence to social norms, because the self-punishing nature of these emotions is costly and may serve as a measure of commitment to the social norms (Fridlund, 1991; Lazare, 2004; Monteith, 1993). The effect of emotional components of apology will increase if they are unexpected (Long & Becke, 2003).

Scher and Darley (1997) argued that expression of remorse is the most important component to communicate in an apology. This claim seems to be in agreement with predictions of clinically oriented scholars, who argue that

communication of warm empathy is essential so the victim can overcome cold feelings of resentment and associated revenge-seeking behaviors (e.g., Baumeister et al., 1994). However, the available evidence with relation to these claims is somewhat contradicting. For example, the most recent study by Fehr and Gelfand (2010) showed that empathy components of apology had the strongest effect on forgiveness and reconciliation. Nevertheless, Scher and Darley's (1997) original data did not find a significant effect of emotional components of apology. Moreover, Schmitt with colleagues (2004) failed to find a direct effect of offender's statements expressing regret altogether. Despite the lack of direct effect, Schmitt et al. (2004) found that victim's perception of whether the offender was regretful did significantly improve offender's impression and victim's emotional reaction. This suggests that while it is advantageous to communicate regret, it might be difficult to do so through direct statements – at least in certain conditions. As was already mentioned, this incongruence is more surprising, considering that all three studies used very similar sample, scenario to manipulate the transgression, and the formulation of the components was also very similar.

The third category consists of components characterized by their **empowering** effect on the victim. It includes request of forgiveness and self-castigation. *Request for forgiveness* shows offender's humility, which is considered to be a submissive display that decreases social power of the requester. For example, Anderson, Srivastava, Beer, Spataro, and Chatman (2006) showed that modesty and humility serve as a constraint on power of the modest individual (see also Keltner, Van Kleef, Chen, & Kraus, 2008). Transgressions often cause victims' loss of power and control

over the situation, and offender's request for forgiveness gives the power and control back to the victim (Shnabel & Nadler, 2008). In different set of studies, Ohbuchi, Kameda, and Agarie (1989) asked their respondents to imagine that they were victims of a transgression and rate their desire to hear different components of apology. Request for forgiveness was within the four most desired components, and this desire increased with the seriousness of the transgression.

Self-castigation has a similar effect as asking for forgiveness in that it increases the power of the victim. Offender declares him- or herself to be incompetent and in other aspects inferior, which should by contrast increase victim's power and self-esteem (Shnabel & Nadler, 2008). In addition, offender's self-humiliation can be perceived as costly for his impression, and therefore a reliable signal of desire to restore the relationship and stay committed to it (Long & Becke, 2003). Schlenker and Darby (1981) offered alternative explanation of the effect of self-castigation. They proposed that self-castigation disparages the part of the offender's impression that is responsible for the transgression. This way it helps to differentiate themselves form the transgression and as a result improve their impression in the eyes of the victim. In a related empirical study they also found that self-castigation and explicit request for apology are more likely to be used when seriousness of the transgression was high, and offender's responsibility was also high (Schlenker & Darby, 1981). They explained it by the fact that request for forgiveness and self-castigation imply high levels of self-blame and therefore they are used mainly in situations of greater importance.

In any case, both request for forgiveness and self-castigation present situations

when offender decides to be vulnerable in front of the victim. Request for forgiveness always faces the possibility that it is going to be denied, and self-castigation exposes offender's weaknesses. Both of these situations give the victim the upper hand; i.e., they increase his or her social power. Willingness to be vulnerable in front of other is one of the most usually cited definitions of trust (Rousseau, Sitkin, Burt, & Camerer, 1998), and therefore it is likely that this factor plays an important role in reconciliation and trust repair.

Offer of compensation is the last category of components of apology. One perspective emphasizes that it answers victim's need for reparation for the harm caused by the offense (Lazare, 2004). Alternatively, offer of compensation makes offender vulnerable, because if the victim accepts the offer, the offender loses resources. Offender's vulnerability also increases victim's power, which was lost as a result of the transgression (Shnabel & Nadler, 2008). In addition, the amount of compensation offered can be used as a measure of honest intention and commitment to the relationship, as predicted by signaling theory. Indeed, Desmet, De Cremer, and van Dijk (2011a) found that slight overcompensation for the caused harm improves trust repair between offender and victim.

Many researchers replicated the trust-restoring effect of compensation under different conditions (e.g. Lewicki & Polin, 2012; Scher & Darley, 1997; Schlenker & Darby, 1981; Schmitt et al., 2004). Fehr and Gelfand (2012) showed that the effect of compensation offer is relatively stronger in inducing reconciliation as compared to other components of apology.

The claim that vulnerability of the offender might be central to the effect of

offer of compensation is supported by research conducted by Bottom and his colleagues (Bottom, Gibson, Daniels, & Murnighan, 2002). They asked participants to play iterated prisoner's dilemma game (PDG) to investigate the effect of different offers of compensation on trust repair. In PDG, players have to individually decide whether to use cooperative or competitive strategy. They can obtain highest joint outcomes when they both play cooperative strategy. However, individually, the best strategy for Player 1 is to compete when Player 2 chooses to cooperate. Situation where both players choose to compete yields lowest both joint outcomes. Thus prisoner's dilemma game presents a mixed motive situation, where cooperative relationship between the two parties can be built only on mutual trust. In Bottom et al.'s study participants engaged in repeated form of this game, where the other player was in fact not a real person, but a computer algorithm. This algorithm then manipulated transgression (by choosing a competitive option) and consequent attempts to restore the trust (by means of messages sent to the victim). This design allowed the researchers to investigate different types of compensation offers. Results showed that open offers of compensation, where the offender asked what it would take for the victim to resume cooperation, were the most effective. Moreover, thus reconciled trust showed to hold even in situation where there was no possibility of any additional reciprocity.

It is important to note that in these situations compensation is offered voluntarily, because forced compensation clearly cannot reestablish trust. Even though in certain conditions forced compensation can signal adherence to social norms, it does not show commitment to the relationship with the victim. In addition,

voluntarity is one of the aspects that makes signal reliable (Long & Becke, 2003). From signaling theory perspective, offer of compensation has one more advantage. Research has shown that mere offer of compensation is sometimes effective in restoring trust, without victim's accepting the compensation (Bottom et al., 2002). However, the situation also allows victim to test whether the offender is ready to follow through with the offer. This way, the commitment to the offer can be a measure of offender's commitment to the relationship with the victim. All these aspects make offer of compensation the most effective component form signaling theory perspective.

Many studies were not interested in the effect of specific components, but were rather focused on more general aspects of apology. This research showed that with the increasing severity of the transgression and offender's stronger responsibility for it, more components are likely to be employed (Schlenker & Darby, 1981) and they consequently increase the probability of positive outcome(Ohbuchi et al., 1989). More specifically, Schlenker and Darby (1981) identified perfunctory statements, such as “Pardon me” and “I am sorry”. These are appropriate in situations where the transgressions are of a small consequence for the victim, but are perceived as insincere in relation to more serious offenses. As severity of transgression increases, so should the elaboration of the particular components of apology in order to assure the same level of sincerity (Schlenker & Darby, 1981). In a related manner, Lazarus' clinical approach (2004) differentiates *apologetic* and *compassionate* “I am sorry”. Apologetic “I am sorry” expresses remorse over the offense and victim's negative consequences. Compassionate “I am sorry”, on the other hand, expresses mere regret

over the consequences for the victim, but not a remorse over the transgression itself and therefore victims are likely not to perceive such compassionate statements as apologies. With this respect, Schmitt, Gollwitzer, Förster and Montada (2004) introduced an important distinction. They differentiated **objective account of apology,** which consists of components uttered by the offender in his or her apology, and **subjective account of apology**, which is victim's representation of offender's apology. Victim's subjective account also consists of components of apology, which do not necessarily have to be identical to the objective account. Some components may be perceived as implied, other components could be perceived as insincere and therefore might not be included in the subjective account. For example, victims can infer remorse from the harm-doer's admission of fault, while this does not have to be the case. Alternatively, acknowledgment of transgression can sometimes stand alone with other components being implied. In situations of little importance, some utterances, whose content would assign them to different categories, are in fact mere acknowledgments of transgression. For example, when a person accidentally hits someone with very little force, he or she may say "Pardon me." However, such statement should not be categorized as a request for forgiveness. Indeed, the offender is unlikely to even wait for the victim's response. In this situation it is just an acknowledgment of transgression. If needed, this can be further refined by inclusion of other cognitive components of apology. The more severe the transgression, the more elaborate the apology (Schlenker & Darby, 1981). Schmitt with his colleagues indeed found that subjects' representations of objective account components was relatively inaccurate, and that the relationship between objective account components

and outcomes was mediated by the victims' subjective perception of them (Schmitt et al., 2004).

Chapter 7: Other Factors Influencing Effectiveness of Apology

Research has shown that there is a number of factors that can affect the effectiveness of apology and its components. Perhaps the most important factor is the perceived sincerity of the apology (e.g., Tomlinson et al., 2004). For example, Tomlinson, Dineen, and Lewicki (2004) found that perceived sincerity of the offender has relatively strongest effect on the willingness to reconcile and that perceived sincerity is a significant moderator of the effect of apology. In addition, Darby and Schlenker (1989) found that children perceive offender who apologized insincerely more negatively. From signaling theory perspective, perceived sincerity of the apology can be understood as the degree to which the victim is persuaded that the apology is a reliable signal of offender's remorse and commitment to the relationship and therefore we can assume an important role of sincerity (Krebs & Dawkins, 1984; Long & Becke, 2003). In addition, sincerity is frequently assumed to be an underlying mechanism of the observed effect, but it is not measured (Bottom et al., 2002; Frantz & Bennigson, 2005). To summarize, while there are strong theoretical reasons for the effect of sincerity, the number of studies testing this assumption is relatively low.

Perceived severity of transgression has been shown to have an important influence on the effect of apology. The more severe is the transgression in the eyes of the victim, the less likely the apology leads to trust repair and improvement of offender's impression (e.g., Liao, 2007; Tomlinson et al., 2004). Studies also showed

that to an extent this can be compensated for by including more components in the uttered apology (Ohbuchi et al., 1989; Schlenker & Darby, 1981). In addition to perceived severity, the nature of transgression has been shown to negatively influence the effectiveness of apology. Kim, Ferrin, Cooper, and Dirks (2004) found that while it is beneficial for the offender to apologize for transgressions that were caused by some competence-related failure, it is better to deny culpability in situations when they are accused of integrity-based transgression (see also Desmet et al., 2011a; Desmet, De Cremer, & van Dijk, 2011b; Ferrin et al., 2007). Kim et al. (2004) explained this by cognitive biases, where people tend to emphasize positive information about performance over negative information, while they have opposite tendency in actions concerning moral integrity of a person (Kim et al., 2004). As was already mentioned, the studies that support the benefits of denial have the limitation that the judges, whose task was to create an impression of the offender, were not direct victims of the offender's transgression (e.g., Ferrin et al., 2007). Our interest lies in the repair of relationship with the victim and therefore the implications of these results for our topic are rather unclear. Nevertheless, Desmet, Cremer, and Dijk (2011) have shown that even when an offender faces his or her victim, victim's beliefs about whether the offender used deception or other strategy involving bad intent has a negative effect on the effectiveness of apology.

In terms of timing of the apology, research yielded contradicting results, suggesting that there are tradeoffs between speed and thoughtfulness of the apology. Some studies indicate that delayed apology is perceived as an afterthought and therefore as less sincere (Liao, 2007; Tomlinson et al., 2004). Other studies showed

that delayed apology can be effective, but only when the victim feels heard and understood (Frantz & Bennigson, 2005).

Not surprisingly, research has shown that good relationship history, high initial levels of trust, and low probability of further transgressions is related to higher effectiveness of apologies (Bottom et al., 2002; Tomlinson et al., 2004). Nevertheless, the main effect of perceived sincerity of the apology is relatively stronger than relationship history, initial trust, or probability of recidivism (Tomlinson et al., 2004).

Many authors assume gender differences. For example, Lazarus (2004) argued that women apologize more, are more interested in apologies, and that they are also more likely to feel guilty, while apologizing can be perceived as dishonorable for males. However, Schumann and Ross (2010) questioned this assumption. Their studies showed that while women apologize more often and their apologies are more complex, this difference can be explained by women's increased sensitivity to transgressions and taking offense. In other words, authors explain the observed differences in frequency and complexity of apology by the fact that women perceive transgressions as more severe. When the levels of perceived severity of transgression are equal, men and women are equally likely to apologize and to use equally complex apology.

Cultural background has been shown to have an effect on several aspects of apology (Barnlund & Yoshioka, 1990). For example, Han and Cai (2010) found that Chinese American show higher face-related concerns even at low levels of responsibility as compared to Americans of European origin. Face is social value or respect an individual claims form others (Goffman, 2003). From this perspective,

members of collectivist cultures should value social approval (positive face), while individualist cultures should be focused on autonomy (negative face; e.g., Oetzel & Ting-Toomey, 2003). Nevertheless, the obtained pattern of results did not simply confirm assumptions about Chinese collectivism, because Chinese participants were significantly more concerned about their and other party's autonomy and not social approval, as compared to Americans. Authors interpret these results as an evidence that intercultural research needs more complex concepts of individualism and collectivism. In addition, some research suggests that cultural differences in the effect of apology are caused by differences in cognitive representation of transgression as well as of the consequent conflict (Gelfand et al., 2001). Ultimately, cultures are bound to differ in what is recognized as a norm, transgression, and in the remedial devices that are available to the involved parties (Goffman, 1971).

This brief review of relevant literature shows that the effect of apology is not a simple process. Clearly, many situational factors can have a major effect on the effectiveness of apology. This paper is investigating whether facial appearance can be included amongst these factors.

Chapter 9: Role of Facial Dominance

In this paper, we propose that some facial features, more specifically facial dominance, have moderating effect on the effectiveness of apology. Research has shown that people create relatively complex impressions of a person based on his or her facial features (e.g., Hassin & Trope, 2000; Noor & Evans, 2003), which has a great influence on their behavior towards that person. For example, Todorov with his

colleagues were able to predict election outcomes based on the facial features of the candidates (Todorov, Mandisodza, Goren, & Hall, 2005). In addition, some research suggests that people create these impressions at a single glance at the person (Willis & Todorov, 2006). After being overlooked for some time, this area of research is finally beginning to attract the attention of apology scholars. For example, Hareli, Sharabi, Cossette, and Hess (2011) found that people with dominant facial features are perceived as being less probable to experience regret and shame after failure or transgression, and they are also perceived as less likely to apologize. This effect was independent of objective social status indicators.

Dominance seems to be a universally salient trait perceived in human faces. For example, Perrett with colleagues (1998) in their classical study showed that there is a close relationship between testosterone-induced masculinity of face (Penton-Voak & Chen, 2004) and perceived dominance, regardless of the cultural background of the respondents. Typically, dominant (masculine) faces have strong jaws, prominent chins, broad cheekbones, heavy brow ridges, and have overall larger facial width-to-height ratio (Burnstein & Branigan, 2001; Carré & McCormick, 2008; Mazur & Booth, 1998). People with high facial dominance are more driven to obtain and maintain high social status (Muller & Mazur, 1997), which facilitates their acquisition of managerial positions (Alrajih & Ward, 2013; Mueller & Mazur, 1996). In addition, they are preferred leaders in the times of conflict, crisis, and unrest (Little, Burriss, Jones, & Roberts, 2007), and as group members they are willing to make higher sacrifices on behalf of the group to assure collective success (Stirrat & Perrett, 2012). However, people with these faces are also perceived as characterized by lower

emotionality, honesty, and cooperativeness (Perrett et al., 1998), while more feminine faces are perceived as having opposite characteristics. Indeed, higher testosterone level, which is responsible for masculine features of human faces, is also related to lower empathy (Hermans, Putman, & van Honk, 2006) and increased incidence of dominant and antisocial behavior (Mazur & Booth, 1998). Also, a larger facial width-to-height ratio was shown to be associated with higher incidence of aggressive (Carré & McCormick, 2008), deceptive, and unethical behavior (Haselhuhn & Wong, 2012). With this evidence, it is reasonable to conclude that the negative impression of people with dominant faces is an adaptation, whose function is to protect from the testosterone-induced tendency to act antisocially (Tooby & Cosmides, 1992).

Facial dominance clearly influences one's impression, and to the extent that apologies are means of impression management, facial dominance is likely to interact with the effects of components of apology. In other words, facial dominance of the offender will systematically influence subjective accounts of apology and its overall effectiveness. The first line of reasoning about this problem can start with the fact that people with dominant faces are perceived as less likely to experience regret, shame and also less likely to apologize (Hareli et al., 2011). Shame and regret are one of the sources of motivation for apology (Lazare, 2004) and consequently people with dominant faces are perceived as chronically undermotivated to apologize. Therefore, the fact that a person with high facial dominance apologized could mean that his or her motivation to apologize had to be relatively high, which is an indicator of genuine intent. In addition, if people high on facial dominance are perceived as less likely to apologize, then receiving an apology form them should be unexpected. This would be

in agreement with Long and Becke's assertion (2003) that unexpected apologies are perceived as more reliable signals of commitment to the relationship. Similarly, apologizing is also perceived as a submissive behavior (Henrich & Gil-White, 2001; Shnabel & Nadler, 2008) and it presents a self-imposed restriction on one's social power (Anderson et al., 2006; Keltner et al., 2008). Therefore such action is more costly for a person who otherwise behaves in a dominant way (Mazur & Booth, 1998) and who is driven to pursue and maintain high social status (Muller & Mazur, 1997). This higher cost can be perceived as a reliable measure of commitment to the relationship with the victim (Krebs & Dawkins, 1984; Long & Becke, 2003; Zahavi, 1975). Even in other primates, dominant group members are more likely to reconcile after aggression only to restore high value social relationship (De Waal, 2000), so the tendency to reconcile can be perceived as a measure of aggressor's perceived value of the relationship. To summarize, apologies of people with high facial dominance are likely to be more unexpected and costly for the offender and therefore more reliable signals of the offender's commitment to the relationship. As a result they will be more effective in terms of impression management and reconciliation. Within signaling theory framework, reliability of a signal is an underlying mechanism that drives the change in behavior of the receiver of the signal (Krebs & Dawkins, 1984; Long & Becke, 2003; Zahavi, 1975). In our model, the perceived reliability of the signal manifests in victim's perceived sincerity of the apology (e.g., Ohtsubo & Watanabe, 2009). This means that the apology of people with dominant faces will be manifested in the increase of victim's perceived sincerity of the apology.

H1a: Apologies of people with dominant faces will be more effective as compared to

people with low dominant faces.

The second line of reasoning starts with the finding that people with dominant faces are perceived as being less honest, less cooperative, less empathetic (Perrett et al., 1998) and therefore less likely to experience regret and shame (Hareli et al., 2011). There is also evidence suggesting that people with dominant faces are indeed carriers of these traits(Haselhuhn & Wong, 2012; Hermans et al., 2006; Mazur & Booth, 1998). For these reasons, apology coming from people high in facial dominance might be less reliable as a signal of their commitment to the relationship. Research in signaling theory has shown that situations where signal becomes less reliable lead to a pressure on receivers of the signal to be more skeptical and less likely to respond positively to the signal (Krebs & Dawkins, 1984). Similarly, people should be more skeptical and suspicious about the reliability of signals coming from people with high facial dominance. In other words, apologies of people with dominant faces will be more likely perceived as manipulative strategies. This will decrease the perceived sincerity of their apology, which will in turn lead to decrease in the effectiveness of apology in trust repair and impression management of the offender (Tomlinson et al., 2004).

H1b: Apologies of people with dominant faces will be less effective as compared to people with low dominant faces.

Given the above predictions about the effectiveness of the apology, it will be of interest to investigate which component of apology should be used by a person with highly dominant facial features. This question has very obvious practical

implications. For example, research has shown that people with dominant faces tend to occupy managerial positions (Alrajih & Ward, 2013; Mueller & Mazur, 1996), and therefore they find themselves in situations where they represent interests of whole companies or teams and might be required to resolve potential conflicts. As a result, their ability to apologize and restore trust can be essential for functioning of organizations and business relationships (Aquino et al., 2003).

In order to make these comparisons, we will use cognitive component as a reference point, because it presents the most basic component of apology (Schlenker & Darby, 1981). It should also be noted that these predictions are of rather tentative and exploratory character. To create concrete predictions about each component, we should first consider the above-described main effect of facial dominance on the effectiveness of apology. If the apology of people with high facial dominance is more effective because it is unexpected (Long & Becke, 2003), then this effect should be stronger in empathy component. This is caused by the fact that people with dominant faces are less likely to experience regret, shame and empathy (Hareli et al., 2011), which will make the use of this component less expected than the use of cognitive component. And since unexpectedness is one of the factors that increases the reliability and consequently the effectiveness of apology, then emotional components should be more effective than cognitive components in people with high facial dominance.

H2a: Empathy components of apology will be more effective than cognitive components in people with dominant faces compared to people with faces low on dominance.

Alternatively, if apologies of people with high facial dominance are perceived as manipulative strategies, then this skepticism will be even increased in the case of empathy components, because people with high facial dominance are perceived as unlikely to experience guilt, shame or empathy (Hareli et al., 2011).

H2b: Empathy components of apology will be less effective than cognitive components in people with dominant faces compared to people with faces low on dominance.

H2c: The observed difference between the effectiveness of cognitive and empathy component will be mediated by the victim's perceived sincerity of the apology.

As we have already mentioned, submissive behavior is more costly for people with dominant faces (Henrich & Gil-White, 2001; Muller & Mazur, 1997). The central aspect of empowering component of apology is to put the victim in the position of power over the offender (Shnabel & Nadler, 2008), and therefore empowering component will be more costly for people with dominant faces as compared to cognitive component of apology. And seeing that costliness is one of the sources of reliability of a signal within signaling theory framework (Long & Brecke, 2003, Zahavi, 1975), empowering component of apology should be perceived as more reliable and therefore to be more effective in trust restoration as compared to cognitive component of apology.

H3a: Empowering components of apology will be more effective than cognitive component in people with dominant faces compared to people with faces low on

dominance.

H3b: The observed difference between the effectiveness of cognitive and empowering component will be mediated by the victim's perceived sincerity of the apology.

At last, research has repeatedly shown that offer of compensation has the relatively strongest effect on reconciliation and offender's impression improvement (R. Fehr & Gelfand, 2010; Lewicki & Polin, 2012; Scher & Darley, 1997; Schlenker & Darby, 1981; Schmitt et al., 2004). Moreover, the amount of compensation offered by the offender can be used as a measure of honest intention and commitment to the relationship, as predicted by signaling theory. Ohtsubo and Watanabe (2009) indeed found a close relationship between the amount of compensation offered and perceived sincerity of the apology. For these reasons we predict that compensating component of apology will be more effective in people with dominant faces, as compared to cognitive component.

H4a: Compensating components of apology will be more effective than cognitive component in people with dominant faces compared to people with faces low on dominance.

H4b: The observed difference between the effectiveness of cognitive and compensating component will be mediated by the victim's perceived sincerity of the apology.

Offer of compensation makes an ideal signal because the amount of compensation offered is a cost for the offender that can be a testable and therefore

reliable measure of the offender's commitment to the relationship. In addition, research has shown that in many cases, the mere offer of compensation leads to impression improvement and trust repair, without the victim actually accepting the offer (Bottom et al., 2002). However, the acceptance of the offer of compensation can serve as additional test of the offender's commitment to the relationship. In other words, the readiness of the offender to follow through with the offer of compensation can serve as a measure of the offender's commitment. We speculate that depending on the nature of the main effect of facial dominance on the effectiveness of apology (investigated in H1), victims will either be less likely to accept the offered compensation if the apology will be perceived as unexpected and therefore more sincere, or more likely to accept the offered compensation in case the apology is perceived as a manipulative strategy, so the reliability of the signal can be tested (Krebs & Dawkins, 1984).

H4c: Compensation offered by people with dominant faces will be less likely to be accepted by the victims, as compared to offenders with less dominant faces.

H4d: Compensation offered by people with dominant faces will be more likely to be accepted by the victims, as compared to offenders with less dominant faces.

Chapter 10: Pilot Studies

Pilot study 1

Pilot study 1 was designed to develop materials needed for manipulation of

high and low facial dominance. For this purpose, 11 male pictures from the CAS-PEAL large-scale Chinese face database (Gao et al., 2008) were selected, 6 of high face width-to-height and 5 of low width-to-height ratio to represent 6 high and 5 low dominance pictures (e.g., Burnstein & Branigan, 2001; Carré & McCormick, 2008). These pictures were rated on scales measuring perceived dominance, attractiveness, intelligence, and age.

Participants. 49 participants, 14 males and 35 females, average age of 21.65 years (SD = 1.67) were recruited from Singapore Management University undergraduates in exchange for course credits.

Procedure and measures. After accepting the informed consent, participants were given a link to the online survey. In the survey, they rated 11 pictures of faces in terms of perceived dominance, attractiveness, intelligence and age. Perceived dominance was measured by 2 items "Overall, how dominant/submissive is the person on the picture?", attractiveness by 2 items "Overall, how attractive/good looking is the person on the picture?", and intelligence by 2 items "Overall, how intelligent/competent is the person on the picture?", all rated on 7-point scales (1 = Not at all, 7 = Extremely so). Perceived age was measured by an open-ended question.

Facial stimuli. 11 male pictures from the CAS-PEAL large-scale Chinese face database (Gao et al., 2008) were selected, 6 of high face width-to-height and 5 low width-to-height ratio to represent 6 high and 5 low dominance pictures. Only photos with symmetrical faces, neutral facial expression and no facial hair or accessories

were included.

Results

The purpose of pilot study 1 was to select manipulation material for high and low facial dominance. This was achieved by selecting a group of 4 pictures that scored low on perceived dominance and 4 pictures that scored high on perceived dominance, while being equivalent in perceived age, attractiveness, and intelligence. Our analysis identified 8 suitable pictures that you can see on Figure 1. Planned repeated measures contrasts were used to compare these two groups of pictures. Our analysis showed that high facial dominance group scored significantly higher in perceived dominance than low facial dominance, $t(528) = 10.28$, $p < .000$. At the same time, these two groups did not differ in perceived age, $t(528) = .50$, $p = .960$, perceived attractiveness, $t(528) = -.48$, $p = .632$, and perceived intelligence, $t(528) = -.97$, $p = .332$. Thus, these two groups of pictures met requirements for manipulation of high and low facial dominance.

Pilot study 2

The purpose of pilot study 2 was to develop scenarios that would be representative of workplace transgressions and also to make sure that these scenarios do not induce some ceiling or floor effect in their distribution of perceive intentionality and severity of the depicted transgression. For this purpose, we developed 6 transgression scenarios, refer to Appendix B. These scenarios will later serve to manipulate transgressions. While the previous studies already tested scenarios for similar manipulation (e.g., Fehr & Gelfand, 2010; Scher & Darley,

1997; Schmitt, Gollwitzer, Förster, & Montada, 2004), we wanted to include more work-relevant setting where victim of transgression is also the target of apology. It is likely that the nature of the relationships in the workplace can be more formal and that different social norms will be more salient as compared to more informal setting (R. Fehr & Gelfand, 2010). For this reason we developed scenarios with work-related transgressions so our findings can be directly applicable for organizational setting. This also brings the issue of the scope of transgressions in organizational context. Aquino, Tripp, and Bies (2006) identified three characteristics of workplace transgressions: goal obstruction; violation of rules, norms, and promises; and status and power derogation. For our studies, we developed six scenarios that each covered all the three characteristics so the scope of transgressions can be more representative of the actual workplace environment.

Participants. 143 participants, 45 males and 98 females, average age of 20.9 years (*SD* = 1.58) were recruited from Singapore Management University undergraduates in exchange for course credits.

Procedure and measures. After accepting the informed consent form, participants were given a link to the online survey. The survey contained 6 scenarios developed to cover the most common categories of transgression in the workplace identified by Aquino, Tripp, and Bies (2006), please refer to Appendix A for the text of the scenarios. Under each transgression scenario there was a list of 15 items that were rated on 5-point scales (1 = Strongly disagree, 5 = Strongly agree). Perceived severity of transgression was measured by statements like “The colleague's action was serious.” and perceived intentionality by statements such as “The colleague's

action was intentional.” Each of the three characteristics of transgressions defined by Aquino et al. (2006) was measured by 3 statements. An example of goal obstruction item is "The colleague's action was blocking my progress.", norm violation was assessed by items such as "The colleague's action crossed the standards of professionalism.", and an example of power derogation items is "The colleague's action humiliated me."

Results

The purpose of this pilot study was to identify 2 scenarios that are matching in terms of the dispersion of perceived severity and intentionality. In addition, these 2 scenarios should each cover all 3 categories of workplace transgressions proposed by Aquino et al. (2006). Investigation of descriptive statistics, graphs, and consequent t-tests revealed Scenario 1 and Scenario 2 as best meeting the requirements about the dispersion of perceived severity and intentionality of the described transgression. Histograms did not reveal any floor or ceiling effect in in perceived severity and intentionality in both scenarios. Repeated measure t-test showed that Scenario 1 and 2 do not differ in their severity, $t(142) = -.79$, $p = .432$. However, these two scenarios differ in terms of perceived intentionality, $t(142) = -2.87$, $p < .01$, which will be addressed by appropriate counterbalancing in the consequent studies.

To investigate whether the two scenarios cover all 3 categories of workplace transgressions proposed by Aquino et al. (2006), we conducted series of one-sample t-tests. The test value of these one-sample t-tests was equal to 9. This number was selected for the following reason: each of the categories was measured by 3 items on 5-point scales (1 = Strongly disagree, 5 = Strongly agree), where rating of 3 stands for

"Neither agree not disagree". This means that cumulative scores from 3 items which equals to 9 describes a situation where the participant cannot decide whether the particular category is present in the scenario. Therefore, cumulative score that is higher than 9 indicate perceived presence of the particular transgression category in the scenario. The performed analysis showed that both scenarios significantly cover all 3 characteristics of workplace transgressions proposed by Aquino et al. (2006), refer to Table 2 for details.

Pilot study 3a

Pilot study 3a was designed to test the assumption that there are 4 distinct components of apology. For this purpose we developed 19 items that cover the scope of the identified components of apology. We started with 14 items that were developed by Fehr and Gelfand (2010) in order to test their 3 components of apology: offer of compensation, expression of empathy, and acknowledgment of transgressed rule. In order to test our hypotheses we also included items measuring empowering component. These items were newly developed.

Participants. 52 participants, 15 males and 37 females, of average age of 21.62 years (*SD* = 1.66) were recruited from Singapore Management University undergraduates in exchange for course credits.

Procedure and measures. After accepting the informed consent form, participants were given link to the online survey. Participants' task was to rate what a good apology should include. The survey consisted of 19 statements describing different aspects of apology, which were rated on 5-point scale (1 = Strongly disagree,

5 = Strongly agree). Each statement was introduced by a phrase “In general, a good apology should include...”, which was followed by the 19 items describing content of the four proposed components of apology. Cognitive component items consisted of 5 statements measuring acknowledgment of and taking responsibility for transgression, such as “[In general, a good apology should include] an admission that he/she did not live up to the standards of the group.” Empathy subcategory consisted of 5 statements, for example “[In general, a good apology should include] an expression of great concern for my suffering.” Compensating component was represented by 5 statements, such as “[In general, a good apology should include] an offer to compensate me for what happened.” All these items were adopted form Fehr and Gelfand's (2010) study. At last, newly developed empowering component measure consisted of 5 statements, such as “[In general, a good apology should include] an expression of humility in front of me” or “humble and submissive formulations.”

Results

To confirm the distinctiveness of the four apology components, exploratory factor analysis with maximum likelihood estimation procedure and varimax rotation was conducted (R. Fehr & Gelfand, 2010). The results showed 4 distinct factors of cognitive, empathy, compensating, and empowering components, factor loadings of individual items can be seen in Table 3. The four scales showed reliability scores of α = .904 for compensating component, α = .866 for empathy component, α = .899 cognitive component, and α = .837 for empowering component.

Pilot study 3b

The purpose of this pilot study was to validate statements that will be used to manipulate the 4 components of apology in the subsequent studies. To achieve this, all 4 manipulation statements were rated as to what degree they express the 4 components as measured by the scales developed in Pilot study 3a.

Participants. 52 participants, 15 males and 37 females, of average age of 21.62 years (*SD* = 1.66) were recruited from Singapore Management University undergraduates in exchange for course credits.

Procedure and measures. After accepting the informed consent form, participants were given link to the online survey. The survey consisted of 4 different parts, each part presenting statement expressing one component of the apology. This statement was then rated on the items in Table 3. For example, when cognitive manipulation was validated, participants were introduced to the task by "Statement 'It was wrong and it was my fault.' expresses...", followed by the items from Table 3 that were rated on 5-point scale (1 = Strongly disagree, 5 = Strongly agree). It is expected that cognitive manipulation statement should rate higher on the relevant items as compared to other components of apology. This procedure was repeated 4 times with different manipulation statements. Cognitive component was manipulated as "It was wrong and it was my fault."; compensating component as "I would like to make it up to you – what would it take so you could trust me again?"; empowering component as "Can you please forgive me?", and empathy component as "I see how this made you feel."

Results

To validate manipulation statements of the four components, we compared

whether each manipulation statement scored higher on a scale measuring the particular component as compared to scales measuring different components. Therefore, we calculated weighed scores of cognitive, empathy, compensating, and empowering component for each of the manipulation statements and compared these scores by repeated-measures general linear model analysis. For example, when we validated cognitive manipulation statements, we took the ratings as to what degree the manipulation statement expresses the 19 items from Table 3. Note that these 19 items are essentially 4 scales measuring different components of apology. Therefore, we calculated weighed[1] scores of the 4 scales for, in this case, cognitive manipulation statement. The assumption is that cognitive manipulation statement should score higher on the scale measuring cognitive component as compared to the scales measuring other components. This assumption was tested by repeated-measures general linear model analysis.

The results showed that empowering manipulation statement expressed significantly more empowering component as compared to cognitive, compensating, and empathy components, for details refer to Table 4. This constitutes successful validation of statement "Can you please forgive me?" as a manipulation of empowering component. Similarly, pairwise comparisons showed that compensating manipulation statement expressed significantly more compensating component, cognitive manipulation statement expressed significantly more cognitive component, and empathy manipulation statement expressed significantly more empathy component. This means that all four statements were successfully validated as manipulations of the relevant components of apology.

[1] We weighed the scores because not all the scales consist of the same number of items.

Chapter 11: Study 1

This study was designed to test our hypotheses about the relationship between facial dominance and the effectiveness of different components of apology. The study was 2 (dominant faced transgressor vs. non dominant faced transgressor) x 4 (four different types of apologies) within-person design where each individual was rating the trustworthiness and willingness to reconcile in the eight different situations. Specifically, the two workplace transgression scenarios developed in the pilot study 2 were used. Each of the scenarios was accompanied by one of the four facial stimuli pictures in dominance condition and one of the four low dominant pictures in low dominance condition. After reading the scenarios, four types of apology representing the identified 4 components of apology were presented, followed by the ratings of trustworthiness and willingness to reconciliation (i.e., the indicators of apology effectiveness).

Participants. 156 participants, 49 males and 107 females, of average age of 21.4 (*SD* = 1.86) were recruited from Singapore Management University undergraduates in exchange for course credits. 81.4 % described themselves as Chinese, 2.6% as Malay, 9% as Indian, and 6.5% as other[2].

Procedure and measures. After arriving to the lab and accepting the informed consent form, participants were given link to the online survey. In this survey they read 2 transgression scenarios in random order. Each of the scenarios was presented with a randomly assigned picture of a face either high or low on facial

[2] Out of the 10 participants that identified themselves as "Others", 3 were Vietnamese, 3 Korean, 2 Eurasian, 1 Javanese, and 1 Caucasian.

dominance features. These faces were from the picture set created in pilot study 1. Each scenario was also accompanied by four types of offender's apologies, representing four components of apology. These apologies were validated in pilot study 3b. “I am sorry, it was wrong and it was my fault.” represents cognitive component, “I am sorry, I see how this made you feel.” represents empathy component, “I am sorry, can you please forgive me?” represented empowering component, and “I am sorry, I would like to make it up to you – what would it take so you could trust me again?” represents compensating component. This constituted 2 (high vs. low facial dominance) x 4 components of apology within subject design.

The exact presentation was as follows. After reading the manipulation scenario with the offender's face, participants rated statements measuring their perception of the transgression. In other words, they rated scales measuring severity and intentionality of the transgression, the same 4 items as in pilot study 2 rated on 7-point scale (1 = Strongly disagree, 5 = Strongly agree). Then four different transgressor's apologies were consecutively presented in random order and participants rated statements measuring their perception of the apology, the trustworthiness of the offender, and willingness to reconcile. More specifically, participants rated the perceived sincerity measure consisting of two items, such as “The colleague's reaction was sincere." This was rated on 5-point scale (1 = Strongly disagree, 5 = Strongly agree). This was followed by three items of Transgressor's Trustworthiness scale (Desmet et al., 2011b), which consists of questions such as “Based on the reaction, do you think the colleague is trustworthy?” rated on 7-point scales (1 = Not at all, 7 = Extremely so). Further, respondents rated three items of

Willingness to Reconcile the Relationship scale (Tomlinson et al., 2004). This measure consists of items like “Given the colleague's actions, I am willing to let the colleague to try to reconcile our relationship,” rated on 7-point scale (1 = Strongly disagree, 5 = Strongly agree). This was repeated for four times for each component statement, and then the whole procedure was repeated for the second scenario.

Two different dependent variables were used in the current study in order to tap the effectiveness of different types of apologies. First, transgressor's trustworthiness was measured because it is frequently used in the apology research (e.g., Desmet, De Cremer, & van Dijk, 2011), as it is related to impression management, which is the most influential framework in the field (e.g., Scher & Darley, 1997). Also, willingness to reconcile was included because it is a frequent measure of trust repair (Tomlinson et al., 2004) and as such it is close to the behavioral measures that will be used in Study 2.

In the end, participants filled in a set of the following individual difference measures: 16-item Horizontal and Vertical Individualism and Collectivism (Triandis & Gelfand, 1998), 44-item Big Five Inventory (John & Srivastava, 1999), Levels of Self-concept scale (Selenta & Lord, 2005), and Implicit Theory of Morality scale (Chiu, Dweck, Tong, & Fu, 1997). The whole procedure took no longer than 30 minutes.

Results.

Before the analysis itself, we excluded all participants that did not pass attention control to make sure that all data in our analysis is collected from

participants that read the instructions carefully. This control consisted of one item what was presented as a part of 44-item Big Five Inventory (John & Srivastava, 1999), where the participant was instructed to select "Strongly Agree". After excluding all participants that did not pass attention control question, data from 117 participants, 36 males and 81 females, of average age of 21.5 (SD = 1.86) were used for consequent analyses.

First, relevant scores of the above-described scales were calculated. Perceived severity of transgressions showed reliability α = .856, perceived intentionality of the transgression α = .950, sincerity of the response α = .978, perceived trustworthiness α = .940, and willingness to reconcile scale showed reliability of α = .909.

The inspection of the correlation Table 5 showed that perceived intentionality of the transgression was negatively related to perceived sincerity of the apology ($r_{high\ dominance,\ cognitive}$ = -0.35 , p < .01; $r_{high\ dominance,\ compensating}$ = -0.29 , p < .01; $r_{high\ dominance,\ empowering}$ = -0.35 , p < .01; $r_{high\ dominance,\ empathy}$ = -0.32 , p < .01; $r_{low\ dominance,\ cognitive}$ = -0.26 , p < .01; $r_{low\ dominance,\ compensating}$ = -0.23 , p < .05; $r_{low\ dominance,\ empowering}$ = -0.37 , p < .01; $r_{low\ dominance,\ empathy}$ = -0.21 , p < .05), trustworthiness of the offender ($r_{high\ dominance,\ cognitive}$ = -0.32 , p < .01; $r_{high\ dominance,\ compensating}$ = -0.27 , p < .01; $r_{high\ dominance,\ empowering}$ = -0.32 , p < .01; $r_{high\ dominance,\ empathy}$ = -0.33 , p < .01; $r_{low\ dominance,\ cognitive}$ = -0.30 , p < .01; $r_{low\ dominance,\ compensating}$ = -0.31 , p < .01; $r_{low\ dominance,\ empowering}$ = -0.36 , p < .01; $r_{low\ dominance,\ empathy}$ = -0.38 , p < .01), and willingness to reconcile with the offender ($r_{high\ dominance,\ cognitive}$ = -0.35 , p < .01; $r_{high\ dominance,\ compensating}$ = -0.37 , p < .01; $r_{high\ dominance,\ empowering}$ = -0.43 , p < .01; $r_{high\ dominance,\ empathy}$ = -0.36 , p < .01; $r_{low\ dominance,\ cognitive}$ = -0.44 , p < .01; $r_{low\ dominance,\ compensating}$ = -0.36 , p < .01; $r_{low\ dominance,}$

$_{empowering}$ = -0.40 , p < .01; $r_{low\ dominance,\ empathy}$ = -0.36 , p < .01) in both high and low dominance faces, and all apology components. Perceived severity overall did not show significant relationship with these outcomes ($r_{reconciliation,\ high\ dominance,\ cognitive}$ = -0.14, *n.s.*;$r_{reconciliation,\ high\ dominance,\ compensating}$ = -0.01, *n.s.*;$r_{reconciliation,\ high\ dominance,\ empowering}$ = -0.12, *n.s.*;$r_{reconciliation,\ high\ dominance,\ empathy}$ = -0.18, *n.s.*;$r_{reconciliation,\ low\ dominance,\ cognitive}$ = -0.16, *n.s.*;$r_{reconciliation,\ low\ dominance,\ compensating}$ = 0.03, *n.s.*;$r_{reconciliation,\ low\ dominance,\ empowering}$ = -0.06, *n.s.*;$r_{reconciliation,\ low\ dominance,\ empathy}$ = -0.15, *n.s.*;$r_{sincerity,\ high\ dominance,\ cognitive}$ = -0.11, *n.s.*;$r_{sincerity,\ high\ dominance,\ compensating}$ = 0.00, *n.s.*;$r_{sincerity,\ high\ dominance,\ empowering}$ = -0.09, *n.s.*;$r_{sincerity,\ high\ dominance,\ empathy}$ = -0.06, *n.s.*;$r_{sincerity,\ low\ dominance,\ cognitive}$ = -0.02, *n.s.*;$r_{sincerity,\ low\ dominance,\ compensating}$ = 0.17, *n.s.*;$r_{sincerity,\ low\ dominance,\ empowering}$ = -0.01, *n.s.*;$r_{sincerity,\ low\ dominance,\ empathy}$ = -0.09, *n.s.*;$r_{trustworthiness,\ high\ dominance,\ cognitive}$ = -0.19, $p < .05$;$r_{trustworthiness,\ high\ dominance,\ compensating}$ = -0.09, *n.s.*;$r_{trustworthiness,\ high\ dominance,\ empowering}$ = -0.16, *n.s.*;$r_{trustworthiness,\ high\ dominance,\ empathy}$ = -0.21, $p < .05$;$r_{trustworthiness,\ low\ dominance,\ cognitive}$ = -0.17, *n.s.*;$r_{trustworthiness,\ low\ dominance,\ compensating}$ = -0.07, *n.s.*;$r_{trustworthiness,\ low\ dominance,\ empowering}$ = -0.12, *n.s.*;$r_{trustworthiness,\ low\ dominance,\ empathy}$ = -0.21, $p < .05$). Further, perceived sincerity of apology consistently showed positive relationship with perceived trustworthiness of the transgressor ($r_{high\ dominance,\ cognitive}$ = 0.72 , $p < .01$; $r_{high\ dominance,\ compensating}$ = 0.68 , $p < .01$; $r_{high\ dominance,\ empowering}$ = 0.67 , $p < .01$; $r_{high\ dominance,\ empathy}$ = 0.70 , $p < .01$; $r_{low\ dominance,\ cognitive}$ = 0.67 , $p < .01$; $r_{low\ dominance,\ compensating}$ = 0.62 , $p < .01$; $r_{low\ dominance,\ empowering}$ = 0.66 , $p < .01$; $r_{low\ dominance,\ empathy}$ = 0.62 , $p < .01$) and victim's willingness to reconcile with him ($r_{high\ dominance,\ cognitive}$ = 0.54 , $p < .01$; $r_{high\ dominance,\ compensating}$ = 0.80 , $p < .01$; $r_{high\ dominance,\ empowering}$ = 0.80 , $p < .01$; $r_{high\ dominance,\ empathy}$ = 0.86 , $p < .01$; $r_{low\ dominance,\ cognitive}$ = 0.74 , $p < .01$; $r_{low\ dominance,}$

$_{compensating}$ = 0.71 , $p < .01$; $r_{low\ dominance,\ empowering}$ = 0.82 , $p < .01$; $r_{low\ dominance,\ empathy}$ = 0.73).

We also uncovered some interesting patterns in individual differences. Notably, while implicit theory of morality showed no relationship with perceived severity and intentionality of the transgression, it was negatively related to perceived trustworthiness of the transgressor ($r_{low\ dominance,\ cognitive}$ = -0.32, $p < .01$; $r_{low\ dominance,\ compensating}$ = -0.25, $p < .01$; $r_{low\ dominance,\ empowering}$ = -0.21, $p < .05$; $r_{low\ dominance,\ empathy}$ = -0.35, $p < .01$; $r_{high\ dominance,\ cognitive}$ = -0.22, $p < .05$; $r_{high\ dominance,\ compensating}$ = 0.00, *n.s.*; $r_{high\ dominance,\ empowering}$ = -0.24, $p < .01$; $r_{high\ dominance,\ empathy}$ = -0.23, $p < .05$), and willingness to reconcile ($r_{low\ dominance,\ cognitive}$ = -0.23, $p < .05$; $r_{low\ dominance,\ compensating}$ = -0.18, $p < .05$; $r_{low\ dominance,\ empowering}$ = -0.13, *n.s.*; $r_{low\ dominance,\ empathy}$ = -0.25, $p < .01$; $r_{high\ dominance,\ cognitive}$ = -0.16, *n.s.*; $r_{high\ dominance,\ compensating}$ = 0.01, *n.s.*; $r_{high\ dominance,\ empowering}$ = -0.15, *n.s.*; $r_{high\ dominance,\ empathy}$ = -0.13, *n.s.*). As we can see from the regression coefficients, this pattern was stronger for transgressors with low dominance faces. This indicates that entity theorists of morality (people who believe that person's moral character is rather given and unchangeable) perceive apologies as less trustworthy and they are less likely to reconcile with them. The pattern also shows that entity theorists of morality are harsher in their judgment of transgressors with low dominance faces.

Hypotheses testing

First, we tested whether the facial dominance of the transgressor influences perceived severity and intentionality of the transgression to determine whether our

further analyses have to control for these factors. Repeated-measures t-test showed that transgression scenarios of colleagues with highly and low dominant faces were perceived as of the same severity $t(116) = .42$, n.s. and intentionality $t(116) = .157$, n.s. This justifies our not using these two factors in the consequent analyses.

H1a: Apologies of people with dominant faces will be more effective as compared to people with low dominant faces.

H1b: Apologies of people with dominant faces will be less effective as compared to people with low dominant faces.

To test our hypotheses about the effect of facial dominance on the effect of apology, we conducted two two-way repeated measures ANOVAs. First, we used the perceived trustworthiness of the transgressor as a dependent variable and we used 2 within-subject factors: dominance (high vs. low) and component of apology (cognitive vs. compensating vs. empowering vs. empathy). Here, our analysis did not show any main effect of facial dominance $F(1, 116) = .324$, $p = .57$, n.s., which means that neither of our hypotheses H1a and H1b were supported. Next, we conducted the same analysis, but this time we used willingness to reconcile as a dependent variable. Replicating our earlier results, our analysis did not show any main effect of facial dominance $F(1, 116) = .993$, $p = .32$, n.s., which means that our hypotheses H1a and H1b were not supported.

H2a: Empathy components of apology will be more effective than cognitive

components in people with dominant faces compared to people with faces low on dominance.

H2b: Empathy components of apology will be less effective than cognitive components in people with dominant faces compared to people with faces low on dominance.

H2c: The observed difference between the effectiveness of cognitive and empathy component will be mediated by the victim's perceived sincerity of the apology.

To investigate what our data may reveal about moderating effect of facial dominance on the effect of components of apology, we again conducted two two-way repeated measures ANOVAs. First, we used the perceived trustworthiness of the transgressor as a dependent variable. As mentioned earlier, our analysis did not show any main effect of facial dominance $F(1, 116) = .324$, $p = .57$, n.s. For the main effect of different components of apology, Mauchly's test indicated that the assumption of sphericity had been violated, $\chi^2(5) = 19.20$, $p = .002$, therefore degrees of freedom were corrected using Huynh-Feldt estimates of sphericity ($\varepsilon = .93$). The results show that there was a significant effect of component of apology on the transgressor's trustworthiness, $F(2.78, 322.10) = 46.89$, $p < .001$. Pairwise comparisons showed that empathy component is significantly less effective than cognitive, for details please refer to Table 6.

More importantly for our hypotheses, the analysis also revealed significant interaction between facial dominance and component of apology $F(3, 348) = 3.75$, $p = .01$, which suggests a moderating effect of facial dominance on the relationship

between component of apology and transgressor's trustworthiness. The plot of estimated marginal means suggests that the way transgressor's facial dominance influences the degree to which compensating component of apology improves transgressor's trustworthiness is responsible for observed interactions effect, refer to Figure 2. This would suggest that there is no interaction effect of facial dominance in our target empathy component of apology. Indeed, series of repeated measures t-tests did not revealed any differences in the effectiveness of empathy and cognitive components caused by transgressor's facial dominance, refer to Table 7 for details. These results are incongruent with our hypotheses H2a and H2b.

Next, we conducted the same set of analyses, but this time we used willingness to reconcile as a dependent variable. To test our hypotheses we conducted second set of two-way repeated measures ANOVA. Replicating our earlier results, our analysis did not show any main effect of facial dominance $F(1, 116) = .993$, $p = .32$, n.s. For the main effect of different components of apology, Mauchly's test indicated that the assumption of sphericity had been violated, $\chi^2(5) = 24.40$, $p < .001$, therefore degrees of freedom were corrected using Huynh-Feldt estimates of sphericity ($\varepsilon = .98$). The results show that there was a significant effect of component of apology on the willingness to reconcile, $F(2.70, 313.36) = 47.93$, $p < .001$. Pairwise comparisons replicated earlier results, showing that cognitive component was more effective than empathy component in increasing the willingness to reconcile with the transgressor, for details please refer to Table 8.

The only difference from the earlier set of analyses is that there is no significant interaction between facial dominance and component of apology $F(3, 348)$

= .80, p = .50, which suggests no moderating effect of facial dominance on the relationship between component of apology and willingness to reconcile with the transgressor. This result is also inconsistent with our hypotheses H2a and H2b.

The lack of interaction effect of facial dominance in our target empathy component of apology did not allow us to test H2c that perceived sincerity would be an underlying mechanism of this difference.

H3a: Empowering components of apology will be more effective then cognitive component in people with dominant faces compared to people with faces low on dominance.

H3b: The observed difference between the effectiveness of cognitive and empowering component will be mediated by the victim's perceived sincerity of the apology.

To test these hypotheses, we used the same two two-way repeated measures ANOVAs as described earlier. First, we used the perceived trustworthiness of the transgressor as dependent variable. As mentioned earlier, our analysis did not show any main effect of facial dominance $F(1, 116) = .324$, $p = .57$, n.s., and there was a significant effect of component of apology on the transgressor's trustworthiness, $F(2.78, 322.10) = 46.89$, $p < .001$. Pairwise comparisons showed that empowering component is significantly less effective than cognitive, for details please refer to Table 6.

The analysis also revealed significant interaction between facial dominance and component of apology $F(3, 348) = 3.75$, $p = .01$. However, series of repeated

measures t-tests did not revealed any differences in the effectiveness of empowering component caused by transgressor's facial dominance, refer to Table 7 for details. These results are incongruent with our hypothesis H3a.

The same set of analyses with willingness to reconcile as a dependent variable showed no main effect of facial dominance $F(1, 116) = .993$, $p = .32$, n.s., and significant effect of component of apology, $F(2.70, 313.36) = 47.93$, $p < .001$. Pairwise comparisons replicated earlier results, showing that empowering component was less effective than cognitive component in increasing the willingness to reconcile with the transgressor, for details please refer to Table 8. In addition, there was no significant interaction between facial dominance and component of apology $F(3, 348) = .80$, $p = .50$, which suggests no moderating effect of facial dominance on the relationship between component of apology and willingness to reconcile with the transgressor. This result is also inconsistent with our hypothesis H3a.

The lack of interaction effect of facial dominance in our target empowering component of apology did not allow us to test H3b that perceived sincerity would be an underlying mechanism of this difference.

H4a: Compensating components of apology will be more effective then cognitive component in people with dominant faces compared to people with faces low on dominance.

H4b: The observed difference between the effectiveness of cognitive and compensating component will be mediated by the victim's perceived sincerity of the apology.

To test these hypotheses, we used the same two two-way repeated measures ANOVAs as described earlier. First, we used the perceived trustworthiness of the transgressor as a dependent variable. As mentioned earlier, our analysis did not show any main effect of facial dominance $F(1, 116) = .324$, $p = .57$, n.s., and there was a significant effect of component of apology on the transgressor's trustworthiness, $F(2.78, 322.10) = 46.89$, $p < .001$. Pairwise comparisons showed that compensating component is significantly more effective than cognitive, for details please refer to Table 6.

The analysis also revealed significant interaction between facial dominance and component of apology $F(3, 348) = 3.75$, $p = .01$. The plot of estimated marginal means suggests that the way transgressor's facial dominance influences the degree to which compensating component of apology improves transgressor's trustworthiness is responsible for observed interactions effect, refer to Figure 2. Indeed, repeated measures t-test of simple effects showed that compensating component is significantly more effective in improving impression when used by transgressor with highly dominant features, $t(116) = 2.15$, $p = .03$. This finding supports our hypothesis H4a.

The same set of analyses with willingness to reconcile as a dependent variable showed no main effect of facial dominance $F(1, 116) = .993$, $p = .32$, n.s., and significant effect of component of apology, $F(2.70, 313.36) = 47.93$, $p < .001$. Pairwise comparisons replicated earlier results, showing that compensating component was more effective than cognitive component in increasing the

willingness to reconcile with the transgressor, for details please refer to Table 8. In addition, there was no significant interaction between facial dominance and component of apology $F(3, 348) = .80$, $p = .50$, which suggests no moderating effect of facial dominance on the relationship between component of apology and willingness to reconcile with the transgressor. This result is inconsistent with our hypothesis H4a.

Our further analysis tested our assumption that perceived sincerity of the apology was the underlying mechanism that mediates the difference between compensating and cognitive component. We also tested alternative theoretical approach to perceived sincerity, where it is assumed to be a moderator (Tomlinson et al., 2004). To test for mediation and moderation, we used techniques suggested by Judd, Kenny, and McClelland (2001). According to these techniques, the first step is to calculate difference score of dependent variable, the transgressor's trustworthiness. In the second step, difference score of the predictor (proposed mediator and/or moderator) is calculated, perceived sincerity in our case. Then, sum score of the predictor is calculated and centered. At last, the difference score in the dependent variable is regressed on the difference score and centered sum score of the predictor. A significant regression coefficient of difference score predictor indicates mediation and significant regression coefficient of centered sum score indicates moderation.

We first tested whether the difference between cognitive and compensating component in transgressor's trustworthiness can be explained by perceived sincerity of the components. Our analysis found significant regression coefficient of difference score ($\beta = .77$, $p < .001$) with significant regression coefficient of intercept ($\beta = .55$, p

< .05), which suggests partial mediation. The sum score was not significant (β = .09, p = .08) which indicates that perceived sincerity was not a moderator. These results were replicated when willingness to reconcile was used as a dependent variable, the only difference being that our analysis indicated full mediation. Specifically, we found significant regression coefficient of difference score (β = .49, p < .001), regression coefficient of intercept was not significant (β = .23, p = .09, n.s.), and regression coefficient of sum score was not significant (β = .04, p = .25). We also tested whether perceived sincerity is the underlying mechanism of the interaction between component of apology and facial dominances. Our analysis found significant regression coefficient of difference score (β = .909, p < .001) and intercept (β = -2.019, p < .001), which means that perceived sincerity is a significant partial mediator of the difference in the effect of compensating component on transgressor's trustworthiness caused by facial dominance of the transgressor. The sum score was not significant (β = -.052, p = .483) which indicates that perceived sincerity was not a moderator. These findings support the hypothesis H4b, suggesting that perceived sincerity of apology is the underlying mechanism of the observed effect.

Exploratory Analysis

While the most of hypotheses regarding the interaction effect of types of apologies and facial dominance were not supported, there was a robust main effect of types of apologies. To understand the nature of the main effect and its underlying mechanism, we conducted exploratory analysis that tested whether the main effect of components of apology on transgressor's trustworthiness can be explained by

perceived sincerity. We also tested alternative theoretical approach to perceived sincerity, where it is assumed to be a moderator (Tomlinson et al., 2004). To test for mediation and moderation, we again used techniques suggested by Judd, Kenny, and McClelland (2001). As you can see on Table 9, perceived sincerity was a significant moderator only in the case of the difference between compensating and empathy component in transgressor's trustworthiness, none of the other differences were moderated by perceived sincerity. However, perceived sincerity was a significant mediator of all the differences in transgressor's trustworthiness caused by the different components of apology. Furthermore, lack of significance of the regression coefficient of the intercept indicates full mediation (Judd et al., 2001). Here, our analysis showed that perceived sincerity of the apology fully mediated the difference between all components in their effect on transgressor's trustworthiness, except in the case of compensating vs empowering component.

Next, we conducted the same set of analyses with the willingness to reconcile as the dependent variable. In other words, we tested whether the main effect of components of apology on the willingness to reconcile can be explained by perceived sincerity. We again used Judd, Kenny, and McClelland's (2001) techniques. As you can see on Table 10, perceived sincerity was not a significant moderator of any of the differences between components in the willingness to reconcile with the transgressor. However, perceived sincerity was a significant mediator of all the differences in willingness to reconcile with the transgressor caused by the different components of apology. Furthermore, our analysis showed that perceived sincerity of the apology fully mediated the difference between all components in their effect on transgressor's

impression, except in the case of compensating vs empowering component and cognitive vs compensating component. Overall, these results support the assumption that perceived sincerity is the underlying mechanism of the effectiveness of different components of apology.

Discussion

Our analysis did not show any main effect of facial dominance of the transgressor on the effectiveness of apology in both, perceived trustworthiness of the offender and victim's willingness to reconcile with the offender. This is surprising because research has repeatedly indicated that people with highly dominant faces are perceived as less trustworthy, more likely to engage in antisocial behavior (Perrett et al., 1998), less likely to experience remorse, and less likely to apologize (Hareli et al., 2011). From this perspective, our study did not manage to replicate these findings. Nevertheless, it is possible that in the current design, the effect of some of these impressions cancel each other out. For example, individuals with highly dominant faces are perceived as less trustworthy, which renders their apologies less effective. However, the fact that they are also perceived as less likely to apologize means that their apologies are unexpected. Long and Brecke (2003) identified unexpectedness as one of the markers of a reliable signal of intention to restore and adhere to trusting relationship. Put together, these two mechanisms could lead to the lack of main effect of facial dominance on the effectiveness of apology, even though it does influence the victim's judgment.

This line of thinking is somewhat supported by the fact that facial dominance

of the transgressor proved to be a significant moderator of the effect of apology components on perceived trustworthiness of the transgressor. Particularly compensating component seems to be responsible for this effect, where it is more effective when used by a transgressor with highly dominant face as opposed to transgressor with low dominant face. Past research already showed that offers of compensation are relatively more effective than other components of apology (e.g., Fehr & Gelfand, 2010; Schlenker & Darby, 1981). This can be explained by signaling theory because the amount of compensation can be used as a measure of honest intention and commitment to the relationship. However, what makes it more effective for people with dominant faces? The key could be the earlier-mentioned unexpectedness. If people with dominant faces are perceived as more likely to cheat (Perrett et al., 1998), then the fact that they spontaneously used the type of apology, whose honestly can be simply tested (by accepting the compensation) and which therefore lacks any ambiguity that would allow cheating and manipulation of the victim, means an extra certainty that they are committed to the relationship. This way, the unexpectedness of them apologizing at all compensates for the general lower trustworthiness, which explains our failure to find main effect of facial dominance, and the additional unexpectedness of the use of this particular type of apology is responsible for the advantage over low facial dominance transgressors. Other factors identified by Long and Brecke (2003), such as costliness and vulnerability, probably did not play such an important role. This can be documented by the fact that we did not see the same relationship in the case of empowering component. Empowering component should be more costly for highly dominant individuals, because they

should be more concerned about the loss of social power. They should also be less comfortable with the loss of social power because it renders them vulnerable as compared to less dominant individuals. Yet, we did not observe any moderating effect of facial dominance in the case of empowering component. In any case, our finding that sincerity mediates this moderating effect of facial dominance on the effectiveness of compensating component indicates that we should search for answers within signaling theory framework.

Indeed, Study 1 provided quite robust support for the use of signaling theory within the apology and trust restoration field, as all the observed differences in the effectiveness of different components of apology were mediated by the perceived sincerity of the apology. From this perspective, perceived sincerity of apology can be defined as the degree to which participants think that the apology is a reliable signal of the transgressor's intentions, which is the underlying mechanism of signaling theory framework (Krebs & Dawkins, 1984).

Study 1 has some clear limitations. First, it is a scenario study, which means that participants only provide judgment about how they think they would behave, which, however, does not mean that their believe would translate into actual behavior. We will address this concern in Study 2. Further, the policy-capturing design means that participants make multiple consecutive judgments on similar task. This means that they do not evaluate each component of apology as a stand-alone event, but rather they compare them to each other, which could lead to contrast effect. This way, participants would exaggerate the differences between the presented components. An opposite effect could occur in the case of facial dominance comparison. Some

participants reported that they thought that the faces should have an effect on their judgment so they were trying to control for it, because they do not agree with judging people by their face. This would inevitably lead to assimilation effect in their judgment. We will address these two issues in Study 2 by using between-subject design. At last, Study 1 focuses on the comparison between different components of apology and therefore it lacks no apology condition. Study 2 will include no apology condition so we can gain better insight into the magnitude of the observed effects.

Chapter 12: Study 2

The purpose of this study was to replicate the findings from study 2 in between subject design. Further, this study manipulated transgression and consequent trust restoration attempt in more realistic setting with real behavioral outcome. At last, it included no apology condition as a point of comparison for the different components of apology.

The experimental design was based on the repeated Prisoners Dilemma Game used by Bottom, Gibson, Daniels, and Murnighan (2002). Prisoner's Dilemma Game (PDG) has long been used to model situations where conflict of interests might arise (Pruitt & Kimmel, 1977; Weber, Kopelman & Messick, 2004) and where optimal outcomes depend on the mutual trust of the involved parties (Rousseau et al., 1998). In PDG, each of two players is faced with two choices: cooperative and competitive. If both players choose cooperative choice, then they achieve best joint outcome; the best individual outcome is achieved when the target person plays competitive choice to the opponent's cooperation. This makes every cooperative choice prone to exploitation, because situation when the target person chooses the cooperative option

to opponent's competitive choice leads to lowest individual outcome for the target player. The worst joint outcomes are a product of a situation where both parties choose the competitive option. Therefore, in an iterated design it is advantageous to build up trusting relationship between the players, but when the other party is not trustworthy, it is safer to compete as prevention against exploitation. In other words, every exploitative attempt leads to the loss of trust, but yet in long term it is advantageous to restore this trust (Rousseau et al., 1998). This setting is very similar to the situations of transgression, where the offender tries to safe the cooperative relationship by means of apology (Kim, Dirks & Cooper, 2009). For these reasons, the iterated PDG presents a good model situation for testing our hypotheses about the effectiveness of apology.

Bottom and his colleagues (2002) took advantage of these properties in their study of the effectiveness of the offer of compensation. They used an algorithm impersonating one of the players in iterated PDG, and in a number of cooperative rounds of the game they established a trusting relationship. Their interface allowed the exchange of short messages. After these initial rounds, the algorithm competed (transgression) and then used explanation and different offers of compensation to reestablish the cooperative relationship. We modified Bottom and his colleagues' (2002) paradigm to test our hypotheses. First, the fake player (computer program) was accompanied with a profile picture, which manipulated the facial dominance. Second, the short messages were used to manipulate the different components of apology.

Participants. 228 participants were recruited from Singapore Management

University undergraduates in exchange for small payment (SGD 6 + their earnings, on average total of SGD 13.3, *SD* = .22). After removal of the participants that showed suspicion about the identity of the other player (whether it was a real person), we were left with 190 participants, 79 males and 111 females, of average age of 21.9 (*SD* = 1.84). 86.8 % described themselves as Chinese, 2.6% as Malay, 7.4 % as Indian, and 3.2% as other.

Procedure. The study started with cooperation priming where during the instructions to the PDG, the advantages of cooperation were emphasized (Bottom, Gibson, Daniels & Murnighan, 2002). This priming served as a manipulation to establish trusting and cooperative relationship. Consequently, participants were presented with the PDG 2x2 payoff matrix, refer to Figure 3. If Player A chooses "Cooperate" option and Player B also "Cooperate", then the payoff was SGD 0.5 for each player. Combination "Compete" and "Compete" yielded SGD 0.4 for each player. Finally, if Player A played "Cooperate" and Player B played "Compete", then Player A earned SGD 0.3 and Player B's yield is SGD 0.6. They were also told that the number of rounds will be determined by a random number generator, and that the minimum number of rounds will be at least 10 and maximum 40. The average length of the game was presented as 15 - 25 rounds. All these instructions were designed to encourage cooperative choices in the early rounds of the game (Bottom, Gibson, Daniels & Murnighan, 2002).

Participants were randomly assigned to high/low facial dominance times type of apology condition, which constitutes 2 (high vs. low facial dominance) x 4 components of apology between subject design. Participants were told that they were

playing with other participants, when in fact all of them were playing against a preset computer program. In other words, Player 2 was always a computer program, and participants were always assigned to the role of Player 1.

The study was designed in z-tree (Fischbacher, 2007), which is a program designed for conducting economic game experiments. Participants were told that the current study investigates different conditions, such as whether the players can see each other, and that in their condition, they will be able to see the other player, while the other player will not be able to see them. It was also mentioned that the other player was from a different university, which served as an explanation for why the person on the picture was not present in the same room as the participant. Participants were also introduced to the possibility to communicate through short messages with the other player, one message per round.

Then the game began. In the first 6 rounds the algorithm played cooperatively, accompanied with encouraging messages, such as “keep it up!”, refer to Table 11 for exact message schedule. After this cooperative phase, the algorithm started to play competitively for 5 rounds, with messages “I thought you'd pick compete now” and “I felt I had to protect myself” (Bottom, Gibson, Daniels & Murnighan, 2002). At the end of this phase the program used the apology manipulation, which was followed by two cooperative rounds. Afterward, the program mirrored the participant's choices. After 15th round, the last round was announced. After playing the last round, participants were presented with the same scales as in Study 1 to measure severity and intentionality of the transgression, sincerity of the apology, and trustworthiness of the offender; for items please refer to Appendix F. In addition to these measures from

Study 1, participants filled in a set of the following individual difference measures: 16-item Horizontal and Vertical Individualism and Collectivism (Triandis & Gelfand, 1998), 44-item Big Five Inventory (John & Srivastava, 1999), Levels of Self-concept scale (Selenta & Lord, 2005), Implicit Theory of Morality scale (Chiu et al., 1997), and Social Values Orientations scale (Van Lange, 1999). In the end, participants were debriefed and paid.

Facial stimuli. During the game, participants were presented with the picture of Player 2. As in Study 1, this was a randomly assigned picture of a face either high or low on facial dominance features. These faces were from the picture set created in Pilot study 1.

Apology manipulation. Participants were randomly assigned to one of four conditions: no apology and 3 proposed components of apology. Cognitive component was manipulated as “I'm sorry, it's my fault we are losing points now...could we both cooperate again?”; empathy as “I'm sorry for this, I see how this made you feel...could we both cooperate again?”; and compensating as “I'm sorry for this, is there anything I can do so we could both cooperate again?” (based on Bottom, Gibson, Daniels & Murnighan, 2002). In no apology condition, Player 2 just switched to cooperative choices.

Results.

First, we excluded people that competed more than 3 times in the initial 6 rounds, because in their case the cooperation prime did not work. Moreover, these participants clearly did not develop a trusting relationship with Player 2, which

invalidates later transgression manipulation. This left us with 174 participants, 73 males and 101 females, of average age of 21.95 (*SD* = 1.87). Afterwards, relevant dependent variables were calculated. In particular, we used the number of times participant chose "Compete" during the rounds after the apology manipulation as a behavioral measure of trust restoration. Further, perceived severity of transgressions scale showed reliability α = .846, perceived intentionality of the transgression α = .838, sincerity of the response α = .924, and perceived trustworthiness α = .884.

The inspection of the correlation table showed that perceived severity of the transgression was positively related to the number of competitive moves after apology (r = .30, p < .01), and negatively related to trustworthiness of the offender (r = -.33, p < .01), refer to Table 12. Perceived intentionality of the transgression showed only negative relationship with the perceived trustworthiness of the transgressor (r = -.30, p < .01), but was unrelated to number of competitive choices (r = .14, p = .07, *n.s.*). Further, perceived sincerity of apology showed negative relationship with number of competitive choices (r = -.39, p < .01) and positive relationship with perceived trustworthiness of the transgressor(r = .58, p < .01).

We also uncovered some interesting patterns in individual differences. Notably, prosocial orientation was negatively related to the number of competitions after apology (r = -.38, p < .01), and positively related to the perceived trustworthiness of the transgressor (r = .29, p < .01). Exactly opposite pattern was observed for individualistic orientation ($r_{competitions}$ = .42, p < .01; $r_{trustworthiness}$ = -.35, p < .01), while competitive orientation was unrelated to these outcomes ($r_{competitions}$ = .03, p = .68, *n.s.*; $r_{trustworthiness}$ = -.02, p = .80, *n.s.*). Relational and collectivistic self-

concept were both negatively related to the number of competitions after apology(r = -.20, p < .01; r = -.16, p < .05), and positively related to the perceived trustworthiness of the transgressor (r = .22, p < .01; r = .18, p < .05). No sex differences in the number of competitive choices (r = .14, p = .08, *n.s.*) or perceived trustworthiness (r = -.10, p = .18, *n.s.*) were observed, but contrary to previous findings (Schumann & Ross, 2010), males saw transgressions as more intentional (r = .24, p < .01) and severe (r = .18, p < .05).

Hypotheses testing

H1a: Apologies of people with dominant faces will be more effective as compared to people with low dominant faces.

H1b: Apologies of people with dominant faces will be less effective as compared to people with low dominant faces.

To test this hypothesis we conducted series of independent samples t-tests. First, we used number of competitive decisions after transgressor's apology as a dependent variable. Results showed that on average, there was no significant difference between transgressors with highly dominant faces (M = 2.03, SD = 1.89) as compared to transgressors with low dominant faces (M = 1.86, SD = 1.89) in the number of competitive moves they received after they apologized for their transgression, t(172)= .60, p = .55. Replicating these results, on average there was no difference between the perceived trustworthiness of transgressors with highly dominant faces (M = 10.76, SD = 4.2) as compared to transgressors with low

dominant faces (M = 11.60, SD = 4.3), $t(172)$= -1.3, p = .20. These results are incongruent with both of the proposed hypotheses.

H2a: Empathy components of apology will be more effective then cognitive components in people with dominant faces compared to people with faces low on dominance.

H2b: Empathy components of apology will be less effective than cognitive components in people with dominant faces compared to people with faces low on dominance.

H2c: The observed difference between the effectiveness of cognitive and empathy component will be mediated by the victim's perceived sincerity of the apology.

To test these hypotheses we first conducted a set of 2 (high vs. low dominant face of transgressor) x 4 (component of apology manipulation) factorial ANOVAs with number of competitive decisions after apology and transgressor's trustworthiness as dependent variables. First, we used the number of competitive decisions after apology as dependent variable. Confirming our earlier results, our analysis did not find any main effect of facial dominance on the number of competitive decisions after apology, $F(1,166) = .57$, $p = .67$. The main effect of the component of apology was significant, $F(3,166) = 35.00$, $p < .001$. However, the most important aspect of the analysis for our hypothesis is the interaction between apology component and facial dominance. Our analysis showed that there was no significant interaction effect of facial dominance and apology component on the number of competitive moves after

transgressor's apology, $F(3,166) = 1.04$, $p = .80$. This result is incongruent with our hypotheses H2a and H2b.

Second, we conducted the same analysis with perceived trustworthiness of the transgressor as dependent variable. This analysis replicated our earlier result, showing no significant main effect of facial dominance, $F(1,166) = 1.52$, $p = .22$, significant main effect of apology component, $F(3,166) = 6.50$, $p < .001$, and no significant effect of interaction effect of facial dominance and apology component on transgressor's trustworthiness, $F(3,166) = .95$, $p = .42$. Based on these results, we have to reject hypotheses H2a and H2b.

As was described above, our analysis revealed significant main effect of component of apology on both, the number of competitive decisions after apology and perceived trustworthiness of the transgressor. However, pairwise comparisons revealed that there was a significant difference in apology conditions between no apology and the three used components of apology, but there was not any significant difference between the components, refer to Table 13 and Table 14, and to Figure 4 Figure 5. In other words, the observed main effect of component of apology was caused by the difference between no apology and an apology present. Planned contrast revealed that compared to no apology, apology conditions on average decreased the number of competitive decisions by 1.78, $t(172) = 5.97$, $p < .001$. However, once apology was present, the participants did not seem to differentiate between different components.

Unfortunately, there is no way to test hypothesis H2c, because there is no significant difference to be explained by sincerity of apology as a mediator.

H4a: Compensating components of apology will be more effective then cognitive component in people with dominant faces compared to people with faces low on dominance.

H4b: The observed difference between the effectiveness of cognitive and compensating component will be mediated by the victim's perceived sincerity of the apology.

Earlier analyses showed no significant interaction effect of facial dominance and component of apology on both, number of competitions after apology ($F(3,166) = 1.04$, $p = .80$, *n.s.*) and transgressor's trustworthiness ($F(3,166) = .95$, $p = .42$, *n.s.*). Based on these results we have to reject H4a. Since H4a was not supported, there is also no way to test hypothesis H4b, because there is no significant difference caused by facial dominance to be explained by the proposed mediation model.

H4c: Compensation offered by people with dominant faces will be less likely to be accepted by the victims, as compared to offenders with less dominant faces.

H4d: Compensation offered by people with dominant faces will be more likely to be accepted by the victims, as compared to offenders with less dominant faces.

To test these hypotheses we first calculated new dependent variable, which was the number of competitions in the first two rounds after apology. Two rounds after apology were selected because they were the most proximal rounds to the

apology. As we can see from Table 11, the Player 2 algorithm was programmed to cooperate in these two rounds, which allowed participants to compensate themselves by choosing "Compete" and thus obtaining the highest individual payoff. In other words, Player 1's competitive choices during these two rounds indicated accepted compensation offer. With this dependent variable, we conducted independent sample t-test comparing transgressors with high facial dominance and transgressors with low facial dominance, all restricted to compensating apology component condition. Results showed that on average, there was no significant difference between transgressors with highly dominant faces (M = .70, SD = .80) and transgressors with low dominant faces (M = .86, SD = .64) in how much participants compensated themselves after compensation was offered by the transgressor, $t(40)$= -.74, p = .47. H4c and H4d were not supported.

Discussion

Study 2 replicated results from Study 1 in that it did not find any main effect of facial dominance, and since it used between-subject design, assimilation effect is unlikely to be responsible, because participants saw only one face and therefore they could not try to consciously counteract potential differences in judgment based on face. One possibility is that our sample size was not large enough to detect this main effect. Indeed, we observed a trend in the direction that the apologies of high facial dominance transgressors were less effective. However, in that case we would be dealing with relatively low effect sizes.

More surprisingly, Study 2 did not replicate the main effect of apology

component observed in Study 1. Study 1 used scenarios in within-subject design and uncovered significant differences between different components of apology, namely compensating component was significantly more effective than cognitive component, cognitive component was more effective than empowering component, and empowering component was more effective then empathy component. Study 2 used behavior to manipulate transgression as well as to measure consequent reconciliation in between-subject design. However, results showed that participants significantly differentiated only between the presence and the absence of an apology, while we did not find any evidence that they differentiated between different components. This would mean that participants did not differentiate different types of apology, as long as the transgressor apologized.

This lack of differentiation between different components is even more surprising if we consider that it is also inconsistent with some of the previous research (e.g. Fehr & Gelfand, 2010; Scher & Darley, 1997; Schmitt et al., 2004). Here, it is important to consider that all these previous studies used scenarios and within-subject design, the same way as in our Study 1. This leaves us with two possible interpretations.

First option is that while people do report differences in the effectiveness of different components when they imagine themselves in the situations based on scenarios, they do not differentiate between these components in real-life situations. It is important to note that while many studies showed high levels of consistency between scenario studies and real-life situations (e.g., Rahman, 1996), certain research topics have been found to produce great inconsistencies between scenarios

and real-life situations (e.g., Carlson, 1996). In the case of the effectiveness of apology component it is too early to tell. Our Study 2 suggests that there might be some differences between our beliefs about how we think we would react when faced with certain types of apology components, and how we would actually react in such situations. Indeed, De Cremer, Pillutla, and Folmer (2011) in their set of studies showed that people make forecasting errors when they imagine that somebody apologized to them. More specifically, people tended to overestimate how much an apology would repair their relationship with the transgressor when they were imagining the situation as compared to when they actually received an apology in such situation. It is possible that a similar phenomenon occurs when people imagine the effectiveness of different components of apology in a sense that they overestimate these differences in the imagined scenario situations. Nevertheless, such conclusion would require replication in greater variety of situations so we can be sure that our null findings are not a result of some situation-specific confound, which brings us to second interpretation.

It is possible that the lack of differentiation between different components of apology is caused by some specific aspects of the design of Study 2. For example, the communication medium could be responsible for the lack of effect. Research has already shown that the use of text chat for interaction between participants leads to different outcomes as compared to face-to-face communication. More specifically, some studies indicate that the use of chat as communication medium makes it harder to accomplish and maintain cooperation in social dilemma games as compared to face-to-face communication; however, text-chat levels of cooperation are still higher

than in no-communication conditions (Bicchieri & Lev-On, 2007). In addition, research also showed that the use of text chat leads to slower development of trusting relationships in both individuals (Bos, Olson, Gergle, Olson, & Wright, 2002) and teams (Wilson, Straus, & McEvily, 2006). At this point, it is unclear what factors are responsible for these differences, but literature shows that results obtained from text-chat studies might not be directly generalizable to face-to-face interaction.

It is also possible that the impersonal and rather detached nature of chat communication caused that contextual factors of the task were relatively weak in their influence on participant's behavior as compared to the effect of personalities of the participants (e.g., Balliet, Li, & Joireman, 2011). From our results, particularly social value orientations seem to be relatively strong predictors of the measured outcomes, where individualistic orientation is more competitive and less trusting, while prosocial orientation is more cooperative and trusting. Surprisingly, competitive orientation was unrelated to these outcomes.

There is also the possibility that the payoff difference between mutual cooperation and competition were not large enough. In other words, the stakes might have been too low so the cost of paying attention to details such as content of apologies outweighed the gain or loss of few cents. This way, the difference between the payoff gain from restored cooperation and loss in case the transgressor used the apology as an exploitative manipulative strategy did not present enough threat that would justify the vigilance to this signal. Consequently, this decrease in vigilance would lead to lower differentiation (e.g., Fridlund, 1991; Smith, 1980).

Another explanation for the lack of differentiation between apology

components might be that the used apologies were relatively long in the context of text messaging. Schlenker and Darby (1981) found that the more severe the transgression, the more elaborate apology it takes to achieve reconciliation. Text messaging usually uses short messages, and therefore the relatively longer formulations of apology could be perceived as elaborate enough to restore the relationship. In our case then the effect of elaboration of apology outweighs the effect of different components of apology and effectively creates a ceiling effect. As a result we did not find any differentiation between the components of apology.

We also did not find any significant interaction effects between facial dominance of the transgressor and apology component. This is less surprising if we consider the lack of significant main effects. Unfortunately, the lack of difference between different components of apology did not allow us to explore the role of sincerity beyond the fact that it is correlated with higher effectiveness of apology.

Study 2 has some clear limitations. As already mentioned, the sample size of Study 2 is relatively low. We also mentioned that there are concerns whether the use of text chat as a communication medium allow generalizability to face-to-face interactions. In addition to these limitations, our study used only relatively low number of pictures to manipulate facial dominance. Larger number and greater variety of pictures would allow us to decrease the probability of any possible confounds in the selected pictures. Similarly, our studies used only male pictures, and therefore it is unclear whether we would obtain the same results for female faces. At last, we used algorithm to manipulate the transgression and consequent apology. Future research should explore whether people react the same way when

transgressions and apologies occur naturally in real chat interaction.

Chapter 13: General Discussion and Conclusion

Our studies add to our knowledge about the effects of facial dominance. Past research showed that people with high perceived facial dominance are perceived as less trustworthy (Perrett et al., 1998), less likely to experience regret, and less likely to apologize (Hareli et al., 2011). However, despite of these previous findings both of our studies did not reveal any main effect of facial dominance. This means that despite these rather negative first impressions of people with high facial dominance, their willingness to use apology after the breach of trust leads to equivalent trustworthiness and probability of reconciliation as in the case of people with low facial dominance. In other words, apology acts as an equalizer between people with high and low facial dominance. It is likely that there are some tradeoffs between different aspects of the impression of people with high facial dominance involved in this lack of main effect. Facial dominance makes them less trustworthy, but the fact that they are also perceived as less likely to apologize means that their apologies are unexpected. Unexpectedness of a signal is one of the factors that make signals reliable within signaling theory framework (Long & Brecke, 2003), and therefore it might mitigate the effect of initially lower trustworthiness of people with high facial dominance.

There are also some clear implications for Impression management theory. As we have shown earlier, the impressions of people with high facial dominance are relatively negative as opposed to individuals with low facial dominance.

Nevertheless, the fact that we did not find any main effect of facial dominance means that apology is particularly effective tactic of impression management when used by people with high facial dominance. This can also be documented by our findings in Study 1, where we certain components of apology lead to significantly more positive impression of people with high facial dominance.

Study 1 also revealed significant main effect of apology. Here, the important aspect is that the used scenarios were set in workplace context, as opposed to relatively informal contexts of previous studies (e.g., Fehr & Gelfand, 2010; Scher & Darley, 1997; Schmitt et al., 2004). In our scenarios, offers of compensation were the most effective. The second most effective was cognitive component, where transgressor admits offense and takes responsibility. The third most effective was empowering component, which is essentially request for forgiveness. At last, the least effective was empathy component, which expressed interest in the victim's suffering. This pattern is quite different from the previous research. For example, Fehr & Gelfand (2010) also found offers of compensation to be the most effective, but empathy component to be more effective than cognitive component. This is probably caused by the fact that the formal atmosphere of workplace environment makes social norms more salient and therefore acknowledgment of transgression and especially the act of taking the responsibility is particularly important.

Study 2, however, did not find any difference in the effect of different components on the transgressor's impression. This would suggest a mismatch between the expectations about how different components would improve transgressor's impression, and how it actually improves it in real situation. Impression

management framework research has until now been relying heavily on scenario survey research and therefore this mismatch presents an important consideration for the future studies within the research programme in a sense that it should put more emphasis on behavioral measures and between subject designs.

At last, in both studies, impression of the transgressor was a strong predictor of willingness to reconcile and cooperation in both studies which further supports the basic thesis of impression management theory: apology leads to improvements in impression management which in turn leads to reconciliation.

From the Needs theory perspective (Lazare, 2004), the results of study 1 suggests that working environment seems to accentuate the need to be compensated (i.e., compensating component of apology) and the need to be assured that a norm has been breached and that the victim is not responsible (i.e., cognitive component of apology). The need to regain social power (i.e., empowering component of apology) and the need for social inclusion (i.e., empathetic apology) seem to be less salient. This could be expected within the formal relationship of colleagues and their respective roles in the organization. Study 2 suggests that within the Prisoner's Dilemma context, neither of the needs is particularly more salient, although it is unclear what needs would be involved within the trust that is based on such a short encounter.

Signaling theory proved to be an effective framework for apology research, especially if we consider that in agreement with its basic tenet, perceived sincerity of the apology mediated the main effect of apology component, as well as the interaction between apology component and facial dominance observed in Study 1. The clear

best performance of compensating component and the relatively low performance of empathy component suggests that there is a strong preference for more testable apologies in workplace conditions. Offer of compensation can be easily tested simply by accepting the offer. In addition, people are probably more vigilant to mixed motives of the transgressor, where he or she might attempt to exploit the victim in the future. This in turn makes victims more skeptical about empathy components of apology, because it is hard to test the sincerity of concerns about victim's feelings.

Signaling theory is also the only framework that can explain why despite of their negative initial impression, people with high facial dominance do as well as people with low dominance when apology is used to improve impression and restore trust, and even better when compensating component is used. Apology coming from people with high facial dominance is unexpected, and unexpectedness is one of the factors that increase reliability of a signal (Long & Brecke, 2003). This increased reliability then counteracts the effect of initially lower trustworthiness of people with high facial dominance. And since offer of compensation provides the lowest opportunity for manipulation, it is even more unexpected that a person who is initially less trustworthy (i.e., people with high facial dominance) would use this strategy in particular. This explains why compensating component is more effective in people with high dominance, when it comes to creating trustworthy impression. Ultimately, future research should investigate whether unexpectedness really is the major factor that is responsible for the relatively high perceived sincerity of apologies coming from a person with high facial dominance.

Another important aspect with potentially important implications is that while

we did find differences in effectiveness in scenario study, we did not manage to replicate these findings in an experiment where participants were exposed to real transgression after which transgressor apologized and it was up to the participant whether the trust was restored. This suggests that there might be a difference between our beliefs about how we would react to particular types of apology, and how we would react if we actually were in the situation. There already exists a study which indicates that this might be the case. De Cremer with colleagues (2011) found that people overestimate the effectiveness apology when imagine that someone apologized to them, as compared to the situation where someone actually apologizes. Our Studies 1 and 2 unfortunately cannot be compared directly, because they differ in their contextual setting. Future research should remedy that by using the same setting in the scenario and in the actual experimental study so we can directly compare the magnitude of the effectiveness of different components of apology.

Our findings have clear practical implications. First, offers of compensation and acknowledgment of transgression with taking a responsibility for it (cognitive component) seem to be more effective in workplace context. This is probably caused by more formal norms for what constitutes transgression and how to restore trust in professional relationships (R. Fehr & Gelfand, 2010). Requests for forgiveness (empowering component) and expressions of empathy are perceived as less sincere and consequently lead to lower perceived trustworthiness of the offender and lower willingness to reconcile with the transgressor.

Second, for people with high facial dominance, apology might be a very powerful tool for their management of social interactions. People with high facial

dominance have to deal with the consequences of some of the negative impressions that high facial dominance is associated with, such as lower trustworthiness (Perrett et al., 1998). This might put them into disadvantage as compared to people with low facial dominance. Apology may function as an equalizer in terms of both, impression and trust repair. This is especially relevant for managers and people in leadership positions. Research has shown that people with high facial dominance are more motivated to acquire higher social status (Muller & Mazur, 1997). Indeed, there is an evidence that in business, people in leadership positions are more likely to be higher in facial dominance (Alrajih & Ward, 2013). This puts them into position that makes them more likely to have to strive to restore trust and repair relationships. Such situations might occur within the group they are in charge of. Research has shown that positive and cooperative relationships in the workplace increase individual and collective productivity (De Dreu, 2008), which makes the issue of forgiveness and trust restoration in the workplace one of the important managerial concerns (Aquino et al., 2003). Clearly, the use of apology and especially of the compensating component can help to remedy potential lack of trust.

Leaders' role is to represent the group in negotiation with other groups and individuals, which makes them more likely to be in a situation when they have to apologize on behalf of a group. Teams tend to show competitive tendencies (e.g., Wildschut, Pinter, Vevea, Insko, & Schopler, 2003), while high level of cooperation between teams is essential for organizations' success (De Dreu & Boles, 1998). This means that team leaders have to be able to effectively restore the trust between teams and apology might be one of the main means to achieve this goal.

Chapter 14: References

Alrajih, S., & Ward, J. (2013). Increased facial width-to-height ratio and perceived dominance in the faces of the UK's leading business leaders. *British Journal of Psychology*, n/a–n/a. doi:10.1111/bjop.12035

Anderson, C., Srivastava, S., Beer, J. S., Spataro, S. E., & Chatman, J. A. (2006). Knowing your place: self-perceptions of status in face-to-face groups. *Journal of Personality and Social Psychology*, *91*(6), 1094.

Aquino, K., Grover, S. L., Goldman, B., & Folger, R. (2003). When push doesn't come to shove: Interpersonal forgiveness in workplace relationships. *Journal of Management Inquiry*, *12*(3), 209–216.

Aquino, K., Tripp, T. M., & Bies, R. J. (2006). Getting even or moving on? Power, procedural justice, and types of offense as predictors of revenge, forgiveness, reconciliation, and avoidance in organizations. *Journal of Applied Psychology*, *91*(3), 653–668.

Balliet, D., Li, N. P., & Joireman, J. (2011). Relating trait self-control and forgiveness within prosocials and proselfs: compensatory versus synergistic models. *Journal of Personality and Social Psychology*, *101*(5), 1090.

Barnlund, D. C., & Yoshioka, M. (1990). Apologies: Japanese and American styles. *International Journal of Intercultural Relations*, *14*(2), 193–206. doi:10.1016/0147-1767(90)90005-H

Baumeister, R. F., Stillwell, A. M., & Heatherton, T. F. (1994). Guilt: An interpersonal approach. *Psychological Bulletin*, *115*(2), 243–267.

Bicchieri, C., & Lev-On, A. (2007). Computer-mediated communication and cooperation in social dilemmas: an experimental analysis. *Politics, Philosophy & Economics*, *6*(2), 139–168.

Bos, N., Olson, J., Gergle, D., Olson, G., & Wright, Z. (2002). Effects of four computer-mediated communications channels on trust development. In *Proceedings of the SIGCHI conference on human factors in computing systems* (pp. 135–140). ACM.

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.

Burnstein, E., & Branigan, C. (2001). Evolutionary analyses in social psychology. In A. Tesser & N. Schwarz (Eds.), *Blackwell Handbook of Social Psychology: Intraindividual Processes* (p. 3). Wiley.

Carlson, B. E. (1996). Dating violence student beliefs about consequences. *Journal of Interpersonal Violence*, *11*(1), 3–18.

Carré, J. M., & McCormick, C. M. (2008). In your face: facial metrics predict aggressive behaviour in the laboratory and in varsity and professional hockey players. *Proceedings of the Royal Society B: Biological Sciences*, *275*(1651), 2651–2656. doi:10.1098/rspb.2008.0873

Chiu, C., Dweck, C. S., Tong, J. Y., & Fu, J. H. (1997). Implicit theories and conceptions of morality. *Journal of Personality and Social Psychology*, *73*(5), 923–940.

Conlon, D. E., & Murray, N. M. (1996). Customer perceptions of corporate responses

to product complaints: The role of explanations. *Academy of Management Journal*, *39*(4), 1040–1056.

De Cremer, D., Pillutla, M. M., & Folmer, C. R. (2011). How important is an apology to you? Forecasting errors in evaluating the value of apologies. *Psychological Science*, *22*(1), 45–48.

De Dreu, C. K. ., & Boles, T. L. (1998). Share and Share Alike or Winner Take All?: The Influence of Social Value Orientation upon Choice and Recall of Negotiation Heuristics. *Organizational Behavior and Human Decision Processes*, *76*(3), 253–276.

De Dreu, C. K. W. (2008). The virtue and vice of workplace conflict: food for (pessimistic) thought. *Journal of Organizational Behavior*, *29*(1), 5–18. doi:10.1002/job.474

De Waal, F. B. (2000). Primates-a natural heritage of conflict resolution. *Science*, *289*(5479), 586–590.

Desmet, P. T. M., De Cremer, D., & van Dijk, E. (2011a). In money we trust? The use of financial compensations to repair trust in the aftermath of distributive harm. *Organizational Behavior and Human Decision Processes*, *114*(2), 75–86. doi:10.1016/j.obhdp.2010.10.006

Desmet, P. T. M., De Cremer, D., & van Dijk, E. (2011b). Trust recovery following voluntary or forced financial compensations in the trust game: The role of trait forgiveness. *Personality and Individual Differences*, *51*(3), 267–273. doi:10.1016/j.paid.2010.05.027

Dirks, K. T., & Skarlicki, D. P. (2009). The Relationship Between Being Perceived as

Trustworthy by Coworkers and Individual Performance†. *Journal of Management*, *35*(1), 136–157. doi:10.1177/0149206308321545

Ellis, A. P., West, B. J., Ryan, A. M., & DeShon, R. P. (2002). The use of impression management tactics in structured interviews: a function of question type? *Journal of Applied Psychology*, *87*(6), 1200.

Fehr, E., Fischbacher, U., & Gächter, S. (2002). Strong reciprocity, human cooperation, and the enforcement of social norms. *Human Nature*, *13*(1), 1–25. doi:10.1007/s12110-002-1012-7

Fehr, R., & Gelfand, M. J. (2010). When apologies work: How matching apology components to victims' self-construals facilitates forgiveness. *Organizational Behavior and Human Decision Processes*, *113*(1), 37–50. doi:10.1016/j.obhdp.2010.04.002

Ferrin, D. L., Kim, P. H., Cooper, C. D., & Dirks, K. T. (2007). Silence speaks volumes: The effectiveness of reticence in comparison to apology and denial for responding to integrity- and competence-based trust violations. *Journal of Applied Psychology*, *92*(4), 893–908.

Fischbacher, U. (2007). z-Tree: Zurich toolbox for ready-made economic experiments. *Experimental Economics*, *10*(2), 171–178.

Frantz, C. M., & Bennigson, C. (2005). Better late than early: The influence of timing on apology effectiveness. *Journal of Experimental Social Psychology*, *41*(2), 201–207. doi:10.1016/j.jesp.2004.07.007

Fridlund, A. J. (1991). Evolution and facial action in reflex, social motive, and paralanguage. *Biological Psychology*, *32*(1), 3–100.

Gao, W., Cao, B., Shan, S., Chen, X., Zhou, D., Zhang, X., & Zhao, D. (2008). The CAS-PEAL large-scale Chinese face database and baseline evaluations. *Systems, Man and Cybernetics, Part A: Systems and Humans, IEEE Transactions on*, *38*(1), 149–161.

Gelfand, M. J., Nishii, L. H., Holcombe, K. M., Dyer, N., Ohbuchi, K.-I., & Fukuno, M. (2001). Cultural influences on cognitive representations of conflict: Interpretations of conflict episodes in the United States and Japan. *Journal of Applied Psychology*, *86*(6), 1059–1074.

Goffman, E. (1971). *Relations in public: Microstudies of the social order*. New York: Basic Books.

Goffman, E. (2003). On Face-Work: An Analysis of Ritual Elements in Social Interaction. *Reflections*, *4*(3), 7–13.

Han, B., & Cai, D. A. (2010). Face goals in apology: A cross-cultural comparison of Chinese and U.S. Americans. *Journal of Asian Pacific Communication (John Benjamins Publishing Co.)*, *20*(1), 101–123.

Hareli, S., Sharabi, M., Cossette, M., & Hess, U. (2011). Observers' expectations regarding the emotional reactions of others in a failure context: the role of status and perceived dominance. *Motivation and Emotion*, *35*(1), 52–62. doi:10.1007/s11031-010-9199-0

Haselhuhn, M. P., & Wong, E. M. (2012). Bad to the bone: facial structure predicts unethical behaviour. *Proceedings of the Royal Society B: Biological Sciences*, *279*(1728), 571–576. doi:10.1098/rspb.2011.1193

Hassin, R., & Trope, Y. (2000). Facing faces: Studies on the cognitive aspects of

physiognomy. *Journal of Personality and Social Psychology*, *78*(5), 837–852.

Henrich, J., & Gil-White, F. J. (2001). The evolution of prestige: freely conferred deference as a mechanism for enhancing the benefits of cultural transmission. *Evolution and Human Behavior*, *22*(3), 165–196. doi:10.1016/S1090-5138(00)00071-4

Hermans, E. J., Putman, P., & van Honk, J. (2006). Testosterone administration reduces empathetic behavior: A facial mimicry study. *Psychoneuroendocrinology*, *31*(7), 859–866. doi:10.1016/j.psyneuen.2006.04.002

John, O. P., & Srivastava, S. (1999). The Big Five trait taxonomy: History, measurement, and theoretical perspectives. In O. C. John & L. A. Pervin (Eds.), *Handbook of personality: Theory and research* (Vol. 2, pp. 102–138). New York: Guilford Press.

Judd, C. M., Kenny, D. A., & McClelland, G. H. (2001). Estimating and testing mediation and moderation in within-subject designs. *Psychological Methods*, *6*(2), 115.

Keltner, D., Van Kleef, G. A., Chen, S., & Kraus, M. W. (2008). A Reciprocal Influence Model of Social Power: Emerging Principles and Lines of Inquiry. In Mark P. Zanna (Ed.), *Advances in Experimental Social Psychology* (Vol. Volume 40, pp. 151–192). Academic Press. Retrieved from http://www.sciencedirect.com/science/article/pii/S0065260107000032

Kim, P. H., Ferrin, D. L., Cooper, C. D., & Dirks, K. T. (2004). Removing the Shadow of Suspicion: The Effects of Apology Versus Denial for Repairing

Competence-Versus Integrity-Based Trust Violations. *Journal of Applied Psychology*, *89*, 104–118.

Krebs, J. R., & Dawkins, R. (1984). Animal signals: mind-reading and manipulation. *Behavioural Ecology An Evolutionary Approximation*, *2*.

Lazare, A. (2004). *On apology*. Oxford University Press, USA.

Leary, M. R., & Kowalski, R. M. (1990). Impression management: A literature review and two-component model. *Psychological Bulletin*, *107*(1), 34.

Leary, M. R., Tambor, E. S., Terdal, S. K., & Downs, D. L. (1995). Self-esteem as an interpersonal monitor: The sociometer hypothesis. *Journal of Personality and Social Psychology*, *68*(3), 518–530.

Lewicki, R. J., & Polin, B. (2012). The Art of the Apology. In R. M. Kramer & T. L. Pittinsky (Eds.), *Restoring Trust in Organizations and Leaders: Enduring Challenges and Emerging Answers*. OUP USA.

Liao, H. (2007). Do it right this time: The role of employee service recovery performance in customer-perceived justice and customer loyalty after service failures. *Journal of Applied Psychology*, *92*(2), 475.

Little, A. C., Burriss, R. P., Jones, B. C., & Roberts, S. C. (2007). Facial appearance affects voting decisions. *Evolution and Human Behavior*, *28*(1), 18–27.

Long, W. J., & Brecke, P. (2003). *War and Reconcilliation: Reason and Emotion in Conflict Resolution*. MIT Press.

Mazur, A., & Booth, A. (1998). Testosterone and dominance in men. *Behavioral and Brain Sciences*, *21*(3), 353–363.

Monteith, M. J. (1993). Self-regulation of prejudiced responses: Implications for

progress in prejudice-reduction efforts. *Journal of Personality and Social Psychology*, *65*(3), 469–485.

Monteith, M. J., Devine, P. G., & Zuwerink, J. R. (1993). Self-directed versus other-directed affect as a consequence of prejudice-related discrepancies. *Journal of Personality and Social Psychology*, *64*(2), 198–210.

Mueller, U., & Mazur, A. (1996). Facial Dominance of West Point Cadets as a Predictor of Later Military Rank. *Social Forces*, *74*(3), 823–850. doi:10.1093/sf/74.3.823

Muller, U., & Mazur, A. (1997). Facial dominance in Homo sapiens as honest signaling of male quality. *Behavioral Ecology*, *8*(5), 569–579.

Noor, F., & Evans, D. C. (2003). The effect of facial symmetry on perceptions of personality and attractiveness. *Journal of Research in Personality*, *37*(4), 339–347.

Oetzel, J. G., & Ting-Toomey, S. (2003). Face Concerns in Interpersonal Conflict A Cross-Cultural Empirical Test of the Face Negotiation Theory. *Communication Research*, *30*(6), 599–624.

Ohbuchi, K., Kameda, M., & Agarie, N. (1989). Apology as aggression control: its role in mediating appraisal of and response to harm. *Journal of Personality and Social Psychology*, *56*(2), 219.

Ohtsubo, Y., & Watanabe, E. (2009). Do sincere apologies need to be costly? Test of a costly signaling model of apology. *Evolution and Human Behavior*, *30*(2), 114–123. doi:10.1016/j.evolhumbehav.2008.09.004

Penton-Voak, I. S., & Chen, J. Y. (2004). High salivary testosterone is linked to

masculine male facial appearance in humans. *Evolution and Human Behavior*, *25*(4), 229–241. doi:10.1016/j.evolhumbehav.2004.04.003

Perrett, D. I., Lee, K. J., Penton-Voak, I., Rowland, D., Yoshikawa, S., Burt, D. M., … Akamatsu, S. (1998). Effects of sexual dimorphism on facial attractiveness. *Nature*, *394*(6696), 884–887.

Rahman, N. (1996). Caregivers' sensitivity to conflict: The use of the vignette methodology. *Journal of Elder Abuse & Neglect*, *8*(1), 35–47.

Reb, J., Goldman, B. M., Kray, L. J., & Cropanzano, R. (2006). Different wrongs, different remedies? Reactions to organizational remedies after procedural and interactional injustice. *Personnel Psychology*, *59*(1), 31–64.

Riordan, C. A., Marlin, N. A., & Kellogg, R. T. (1983). The Effectiveness of Accounts Following Transgression. *Social Psychology Quarterly*, *46*(3), 213–219.

Rousseau, D. M., Sitkin, S. B., Burt, R. S., & Camerer, C. (1998). Not so different after all: A cross-discipline view of trust. *Academy of Management Review*, *23*(3), 393–404.

Scher, S. J., & Darley, J. M. (1997). How effective are the things people say to apologize? Effects of the realization of the apology speech act. *Journal of Psycholinguistic Research*, *26*(1), 127–140.

Schlenker, B. R. (1980). *Impression management: The self-concept, social identity, and interpersonal relations*. Brooks/Cole Publishing Company Monterey, CA.

Schlenker, B. R., & Darby, B. W. (1981). The Use of Apologies in Social Predicaments. *Social Psychology Quarterly*, (3), 271.

Schlenker, B. R., Pontari, B. A., & Christopher, A. N. (2001). Excuses and Character:

Personal and Social Implications of Excuses. *Personality & Social Psychology Review (Lawrence Erlbaum Associates)*, *5*(1), 15–32.

Schmitt, M., Gollwitzer, M., Förster, N., & Montada, L. (2004). Effects of Objective and Subjective Account Components on Forgiving. *Journal of Social Psychology*, *144*(5), 465–485.

Schumann, K., & Ross, M. (2010). Why Women Apologize More Than Men: Gender Differences in Thresholds for Perceiving Offensive Behavior. *Psychological Science*, (11), 1649.

Selenta, C., & Lord, R. G. (2005). Development of the levels of self-concept scale: Measuring the individual, relational, and collective levels. *Unpublished Manuscript*.

Shnabel, N., & Nadler, A. (2008). A needs-based model of reconciliation: satisfying the differential emotional needs of victim and perpetrator as a key to promoting reconciliation. *Journal of Personality and Social Psychology*, *94*(1), 116.

Sigal, J., Hsu, L., Foodim, S., & Betman, J. (1988). Factors Affecting Perceptions of Political Candidates Accused of Sexual and Financial Misconduct. *Political Psychology*, (2), 273.

Sigmund, K. (2007). Punish or perish? Retaliation and collaboration among humans. *Trends in Ecology & Evolution*, *22*(11), 593–600.

Smith, W. J. (1980). *The Behavior of Communicating: An Ethological Approach*. USA: Harvard University Press.

Stevens, C. K., & Kristof, A. L. (1995). Making the Right Impression: A Field Study

of Applicant Impression Management During Job Interviews. *Journal of Applied Psychology*, *80*(5), 587–606.

Stirrat, M., & Perrett, D. I. (2012). Face Structure Predicts Cooperation Men With Wider Faces Are More Generous to Their In-Group When Out-Group Competition Is Salient. *Psychological Science*, *23*(7), 718–722.

Todorov, A., Mandisodza, A. N., Goren, A., & Hall, C. C. (2005). Inferences of competence from faces predict election outcomes. *Science*, *308*(5728), 1623–1626.

Tomlinson, E. C., Dineen, B. R., & Lewicki, R. J. (2004). The Road to Reconciliation: Antecedents of Victim Willingness to Reconcile Following a Broken Promise. *Journal of Management*, *30*, 165–187.

Tooby, J. E., & Cosmides, L. E. (1992). Psychological foundations of culture. In J. H. Barkow, L. E. Cosmides, & J. E. Tooby (Eds.), *The adapted mind: Evolutionary psychology and the generation of culture.* (pp. 19–136). New York, NY: Oxford University Press.

Triandis, H. C., & Gelfand, M. J. (1998). Converging measurement of horizontal and vertical individualism and collectivism. *Journal of Personality and Social Psychology*, *74*(1), 118.

Van Lange, P. A. (1999). The pursuit of joint outcomes and equality in outcomes: An integrative model of social value orientation. *Journal of Personality and Social Psychology*, *77*(2), 337.

Wildschut, T., Pinter, B., Vevea, J. L., Insko, C. A., & Schopler, J. (2003). Beyond the group mind: A quantitative review of the interindividual-intergroup

discontinuity effect. *Psychological Bulletin*, *129*(5), 698.

Willis, J., & Todorov, A. (2006). First impressions making up your mind after a 100-ms exposure to a face. *Psychological Science*, *17*(7), 592–598.

Wilson, J. M., Straus, S. G., & McEvily, B. (2006). All in due time: The development of trust in computer-mediated and face-to-face teams. *Organizational Behavior and Human Decision Processes*, *99*(1), 16–33. doi:10.1016/j.obhdp.2005.08.001

Zahavi, A. (1975). Mate selection—a selection for a handicap. *Journal of Theoretical Biology*, *53*(1), 205–214.

Table 1. Comparison of components of apology used by different authors

Goffman, 1971	Schlenker & Darby, 1981	Ohbuchi, Kameda & Agarie, 1989	Scher & Darley, 1997	Schmitt, Gollwitzer, Förster & Montada, 2004	Lazare, 2004	Fehr & Gelfand, 2010	Lewicki & Polin, 2012	Common components
acknowledgment of transgression of a conduct and sympathy with application of negative sanction	statement of apologetic intent "I am sorry"	expressions like "excuse me"		admitting damage	acknowledgment of the offense	acknowledgment of violated rules/norms	Acknowledgment of the responsibility	Cognitive component
adoption and advocacy of the right way and forbearance		acceptance of responsibility	expression of speaker's responsibility	admitting fault				
		promising future good deeds	promise of forebearance		forebearance			
		explanation	explanation or account of the cause		explanations		Explanation of why the violation occurred	
expression of embarrassment	expression of feelings of remorse about the situation	expression of remorse	illocutionary force indicating device	expressing remorse	communicating remorse and the related attitudes of forbearance, sincerity, and honesty	expressions of empathy	Expression of regret for the offense	emotional components
	request forgiveness	begging for forgiveness		asking for pardon			Request of forgiveness	
verbal rejection and disavowal of the wrong conduct and self-castigation of the self that so behaved	self-castigation	showing consideration						empowering components
							Declaration of repentance	
penance and volunteering of compensation	offer of help	promising future good deeds	offer of repair	offering compensation	reparations	Offer of compensation	Offer of repair	compensating components

Figures

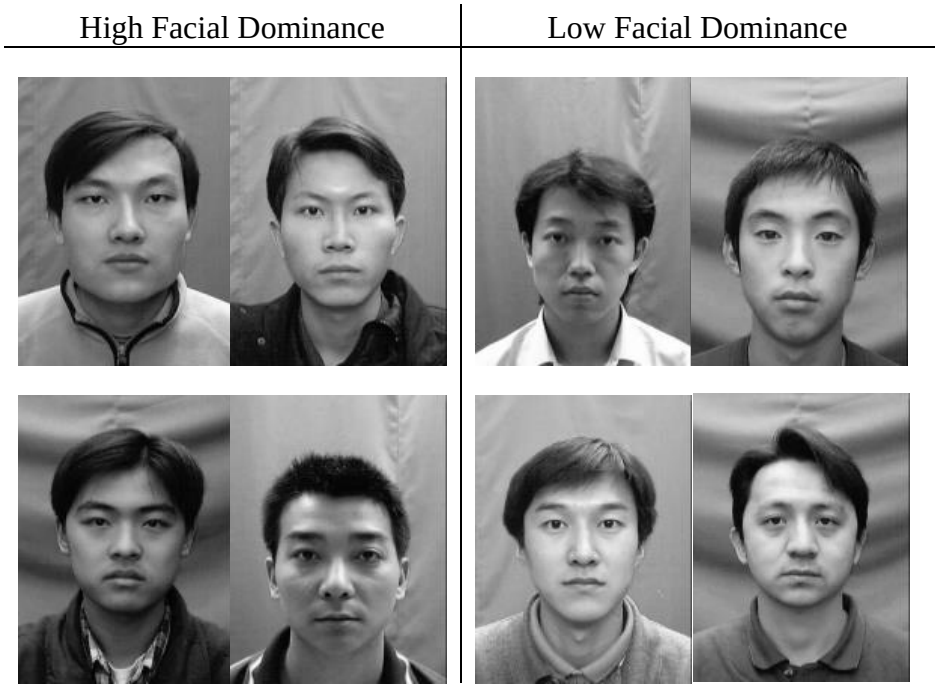


Figure 1 *Selected Facial Dominance Manipulation Pictures*

Table 2

One-Sample T-test of Perceived Presence of Transgression Categories in Scenarios

	M	SD	t	df	p	Mean Difference
Scenario 1 - goal obstruction	12.14	2.10	17.89	142	.000	3.14
Scenario 2 - goal obstruction	11.78	2.17	15.32	142	.000	2.78
Scenario 1 - norm violation	11.81	2.29	14.69	142	.000	2.81
Scenario 2 - norm violation	12.30	2.13	18.50	142	.000	3.30
Scenario 1 - power derogation	10.96	2.39	9.82	142	.000	1.96
Scenario 2 - power derogation	10.78	2.46	8.67	142	.000	1.78

Note. N = 143; test value of all scores = 9, which is a score that would be reached if respondents were not sure whether the particular category of transgression was present in the described scenario. All scores above 9 indicate that the category of transgression is perceived as present in the scenario.

Table 3

Exploratory Factor Analysis for Apology Component Items

Items	Factor			
In general, a good apology should include...	Cognitive	Empathy	Compensation	Empowering
1. an offer to compensate me for what happened	.161	.035	**.921**	-.029
2. an offer to help me recover my damages	.009	-.024	**.957**	-.115
3. an offer to do something specific to make up for what happened	.096	-.023	**.680**	.211
4. a suggestion that he/she reimburse me in some way	.288	.073	**.744**	.264
5. an expression of great concern for my suffering	-.123	**.714**	.147	-.013
6. a show of empathy toward me	.102	**.896**	.053	.035
7. an indication that he/she truly cares about how I feel	-.006	**.703**	-.246	.083
8. an expression of tenderness toward me	-.052	**.799**	.062	.037
9. true sympathy for me	.117	**.760**	-.018	.050
10. a show of concern for breaking an important social norm	**.716**	.254	-.021	-.055
11. an acknowledgment that he/she didn't live up to group standards	**.797**	-.048	.252	-.031
12. an acknowledgment that he/she violated an important group rule	**.889**	-.035	.063	.184
13. an admission that he/she did not live up to the standards of the group	**.738**	-.044	.142	.078
14. a verbal recognition that he/she failed to act as a good group member	**.822**	-.072	.100	.224
15. an expression of vulnerability in front of me	.210	.049	.075	**.684**
16. humble and submissive formulations	.030	-.094	.006	**.720**
17. self-humiliating and self-implicating expressions related to the incident	.143	.017	.200	**.668**
18. and expressions of humility in front of me	.011	.120	-.012	**.711**
19. a denouncement of the transgressing deed	-.032	.086	.011	**.753**
Eigenvalue	3.387	3.138	3.013	2.739
% of Variance	17.826	16.514	15.859	14.415

Note. Boldface values indicate which factors the items load on. Procedure was maximum likelihood estimation with varimax rotation.

Table 4

Statement Validation - Pairwise Comparisons of Target and Comparison Scores

Target Score	Comparison Score	Mean Difference	Std. Error	p
Empowering	Cognitive	0.55	.153	.001
	Compensating	1.253	.141	.000
	Empathy	0.746	.130	.000
Compensating	Empowering	0.85	.129	.000
	Cognitive	1.081	.154	.000
	Empathy	0.604	.113	.000
Cognitive	Empowering	0.369	.151	.018
	Compensating	1.381	.158	.000
	Empathy	0.988	.164	.000
Empathy	Empowering	0.819	.139	.000
	Cognitive	0.854	.127	.000
	Compensating	1.132	.132	.000

Note. Target Score = score relevant for the particular manipulation statement; Mean Difference = Target score - Comparison score, positive Mean Difference means that Target score was higher than Comparison score; all comparisons are based on estimated marginal means, mean differences are significant at the .05 level.

Table 5 - part 1 of 8

Correlation Table of Variables Measured in Study 1

	1	2	3	4	5	6
1. Gender	-					
2. Age	-.583**	-				
3. LD Severity	-.215*	.161	(.83)			
4. LD Intent	-.064	.042	.271**	(.98)		
5. LD Cog. - Sinc.	-.034	.018	-.024	-.262**	(.98)	
6. LD Cog. - Trustw.	-.108	.068	-.168	-.299**	.667**	(.94)
7. LD Cog. - Reconc.	-.002	-.077	-.162	-.442**	.744**	.743**
8. LD Comp. - Sinc.	-.099	.193*	.165	-.230*	.611**	.451**
9. LD Comp. - Trustw.	-.095	.056	-.074	-.311**	.475**	.733**
10. LD Comp. - Reconc.	.007	-.007	.034	-.355**	.502**	.554**
11. LD Empow. - Sinc.	.087	-.063	-.006	-.370**	.436**	.441**
12. LD Empow. - Trustw.	-.020	.048	-.125	-.357**	.380**	.705**
13. LD Empow. - Reconc.	.056	-.093	-.057	-.403**	.418**	.484**
14. LD Empat. - Sinc.	-.132	.035	-.087	-.206*	.498**	.412**
15. LD Empat. - Trustw.	-.054	-.065	-.209*	-.375**	.404**	.685**
16. LD Empat. - Reconc.	-.046	-.108	-.147	-.355**	.438**	.494**
17. HD Severity	-.139	.199*	.485**	.134	.108	-.032
18. HD Intent	.062	.142	-.029	.180	-.052	-.114
19. HD Cog. - Sinc.	-.029	.054	.035	-.129	.490**	.367**
20. HD Cog. - Trustw.	-.153	.092	.011	-.155	.357**	.642**
21. HD Cog. - Reconc.	-.076	.016	.091	-.093	.311**	.342**
22. HD Comp. - Sinc.	-.134	.141	.232*	.122	.290**	.221*
23. HD Comp. - Trustw.	-.203*	.161	.157	.088	.324**	.507**
24. HD Comp. - Reconc.	-.197*	.167	.284**	.092	.299**	.231*
25. HD Empow. - Sinc.	-.018	.011	.084	-.073	.242**	.248**

Note. * $p < 0.05$; ** $p < 0.01$; LD - low facial dominance, HD = high facial dominance;
Coefficient alphas in parentheses where applicable.

Table 5. - part 2 of 8

Correlation Table of Variables Measured in Study 1

	1	2	3	4	5	6
26. HD Empow. - Trustw.	-.082	.021	.018	-.207*	.201*	.494**
27. HD Empow. - Reconc.	-.065	.082	.152	-.098	.171	.194*
28. HD Empat. - Sinc.	-.115	-.009	.014	-.033	.224*	.300**
29. HD Empat. - Trustw.	-.056	-.094	-.088	-.191*	.247**	.542**
30. HD Empat. - Reconc.	-.031	-.098	-.081	-.117	.158	.273**
31. B5 Agreeabl	.201*	-.221*	.033	-.123	.023	.061
32. B5 Conscien	-.092	.127	.198*	.039	-.025	.005
33. B5 Extravers	-.191*	.152	.121	.006	.228*	.192*
34. B5 Neurot	.406**	-.205*	.004	.084	-.067	-.111
35. B5 Openness	-.193*	.173	.082	-.104	.181	.165
36. Self-Rep Dominance	-.302**	.387**	.137	.123	.091	.068
37. Indiv. Self-Concept	-.223*	.233*	.188*	.146	-.009	-.090
38. Relat. Self-Concept	.095	-.163	.144	-.146	.042	.003
39. Collec. Self-Concept	.087	-.083	.252**	.043	.062	.002
40. Entity Th. of Char.	-.017	.050	.103	.007	-.153	-.200*
41. Entity Th. of Mor.	.006	.083	.181	.153	-.197*	-.323**
42. Horiz. Individualism	-.060	.147	.007	.088	-.054	-.159
43. Vert. Individualism	-.189*	.169	.156	.280**	.064	-.031
44. Horiz. Collectivism	.094	-.111	.109	-.097	.200*	.048
45. Vert. Collectivism	.159	-.259**	.141	-.020	.154	-.065

Note. * $p < 0.05$; ** $p < 0.01$; LD - low facial dominance, HD = high facial dominance; Coefficient alphas in parentheses where applicable.

Table 5. - part 3 of 8

Correlation Table of Variables Measured in Study 1

	7	8	9	10	11	12
7. LD Cog. - Reconc.	(.92)					
8. LD Comp. - Sinc.	.500**	(.95)				
9. LD Comp. - Trustw.	.582**	.622**	(.94)			
10. LD Comp. - Reconc.	.660**	.705**	.722**	(.94)		
11. LD Empow. - Sinc.	.548**	.423**	.483**	.545**	(.97)	
12. LD Empow. - Trustw.	.542**	.434**	.752**	.575**	.658**	(.95)
13. LD Empow. - Reconc.	.638**	.440**	.561**	.650**	.817**	.746**
14. LD Empat. - Sinc.	.419**	.300**	.391**	.352**	.313**	.369**
15. LD Empat. - Trustw.	.522**	.289**	.674**	.442**	.398**	.710**
16. LD Empat. - Reconc.	.652**	.273**	.508**	.560**	.430**	.459**
17. HD Severity	-.016	.188*	.000	.103	.030	-.037
18. HD Intent	-.166	-.133	-.167	-.201*	-.116	-.066
19. HD Cog. - Sinc.	.457**	.338**	.242**	.375**	.377**	.192*
20. HD Cog. - Trustw.	.445**	.330**	.542**	.450**	.334**	.525**
21. HD Cog. - Reconc.	.440**	.247**	.310**	.410**	.358**	.258**
22. HD Comp. - Sinc.	.192*	.423**	.193*	.298**	.190*	.089
23. HD Comp. - Trustw.	.302**	.467**	.509**	.379**	.252**	.420**
24. HD Comp. - Reconc.	.289**	.426**	.259**	.396**	.244**	.152
25. HD Empow. - Sinc.	.320**	.276**	.291**	.283**	.500**	.386**
26. HD Empow. - Trustw.	.327**	.302**	.569**	.386**	.431**	.649**
27. HD Empow. - Reconc.	.267**	.248**	.310**	.261**	.385**	.351**
28. HD Empat. - Sinc.	.304**	.073	.209*	.222*	.273**	.279**
29. HD Empat. - Trustw.	.423**	.214*	.501**	.357**	.364**	.592**
30. HD Empat. - Reconc.	.330**	.055	.229*	.264**	.290**	.328**
31. B5 Agreeabl	.037	.070	.162	.091	.224*	.156
32. B5 Conscien	-.089	.075	-.012	-.060	-.049	.042
33. B5 Extravers	.132	.295**	.170	.036	.214*	.191*
34. B5 Neurot	-.039	-.071	-.135	.048	-.130	-.138
35. B5 Openness	.242**	.036	.141	.018	.116	.120
36. Self-Rep Dominance	.062	.154	.049	-.019	-.051	.067
37. Indiv. Self-Concept	-.098	.054	-.144	-.065	.044	-.039
38. Relat. Self-Concept	.105	-.012	.072	.076	-.003	.019
39. Collec. Self-Concept	.031	.098	.007	-.023	.100	.119
40. Entity Th. of Char.	-.173	.001	-.125	-.098	-.024	-.163
41. Entity Th. of Mor.	-.232*	-.026	-.254**	-.183*	-.025	-.207*
42. Horiz. Individualism	-.123	-.022	-.052	-.125	-.191*	-.150
43. Vert. Individualism	-.052	.072	-.135	-.069	-.044	-.065
44. Horiz. Collectivism	.100	.155	.028	-.036	.140	.073
45. Vert. Collectivism	.014	.123	-.018	.070	.103	.057

Note. * $p < 0.05$; ** $p < 0.01$; LD - low facial dominance, HD = high facial dominance; Coefficient alphas in parentheses where applicable.

Table 5. - part 4 of 8

Correlation Table of Variables Measured in Study 1

	13	14	15	16	17	18
13. LD Empow. - Reconc.	(.93)					
14. LD Empat. - Sinc.	.351**	(.98)				
15. LD Empat. - Trustw.	.505**	.623**	(.94)			
16. LD Empat. - Reconc.	.591**	.729**	.685**	(.88)		
17. HD Severity	-.018	.035	-.126	-.036	(.88)	
18. HD Intent	-.139	-.163	-.110	-.250**	.236*	(.92)
19. HD Cog. - Sinc.	.322**	.322**	.231*	.355**	-.108	-.345**
20. HD Cog. - Trustw.	.378**	.239**	.468**	.330**	-.194*	-.321**
21. HD Cog. - Reconc.	.420**	.162	.254**	.409**	-.141	-.347**
22. HD Comp. - Sinc.	.184*	.087	.039	.062	-.005	-.292**
23. HD Comp. - Trustw.	.321**	.155	.266**	.153	-.086	-.269**
24. HD Comp. - Reconc.	.289**	.125	.081	.166	-.013	-.365**
25. HD Empow. - Sinc.	.516**	.185*	.210*	.269**	-.093	-.354**
26. HD Empow. - Trustw.	.528**	.212*	.518**	.317**	-.156	-.316**
27. HD Empow. - Reconc.	.487**	.163	.291**	.298**	-.124	-.427**
28. HD Empat. - Sinc.	.366**	.564**	.484**	.603**	-.057	-.324**
29. HD Empat. - Trustw.	.511**	.445**	.665**	.558**	-.212*	-.325**
30. HD Empat. - Reconc.	.436**	.502**	.468**	.597**	-.176	-.358**
31. B5 Agreeabl	.174	.004	.128	.084	-.008	-.031
32. B5 Conscien	-.056	.036	-.003	-.042	.087	.046
33. B5 Extravers	.187*	-.021	.043	-.006	.124	.017
34. B5 Neurot	-.076	-.176	-.189*	-.082	.048	.116
35. B5 Openness	.158	.011	.090	.196*	.115	-.165
36. Self-Rep Dominance	-.005	.030	-.089	-.023	.161	.162
37. Indiv. Self-Concept	-.007	-.129	-.175	-.129	.153	.204*
38. Relat. Self-Concept	.001	-.049	.090	.101	.105	.002
39. Collec. Self-Concept	.113	-.075	.001	-.051	.094	.043
40. Entity Th. of Char.	-.157	-.033	-.251**	-.202*	.124	.143
41. Entity Th. of Mor.	-.128	-.109	-.348**	-.247**	.043	.174
42. Horiz. Individualism	-.166	-.131	-.193*	-.159	.055	.175
43. Vert. Individualism	-.034	-.031	-.119	-.108	.147	.298**
44. Horiz. Collectivism	.118	-.027	-.014	.012	-.051	-.089
45. Vert. Collectivism	.133	.010	.033	.060	.121	-.061

Note. * $p < 0.05$; ** $p < 0.01$; LD - low facial dominance, HD = high facial dominance; Coefficient alphas in parentheses where applicable.

Table 5. - part 5 of 8

Correlation Table of Variables Measured in Study 1

	19	20	21	22	23	24
19. HD Cog. - Sinc.	(.97)					
20. HD Cog. - Trustw.	.579**	(.94)				
21. HD Cog. - Reconc.	.723**	.666**	(.93)			
22. HD Comp. - Sinc.	.535**	.401**	.473**	(.98)		
23. HD Comp. - Trustw.	.399**	.672**	.481**	.681**	(.95)	
24. HD Comp. - Reconc.	.576**	.504**	.677**	.800**	.719**	(.83)
25. HD Empow. - Sinc.	.480**	.430**	.497**	.426**	.440**	.489**
26. HD Empow. - Trustw.	.338**	.690**	.478**	.310**	.644**	.431**
27. HD Empow. - Reconc.	.477**	.448**	.663**	.410**	.484**	.613**
28. HD Empat. - Sinc.	.422**	.316**	.439**	.280**	.266**	.339**
29. HD Empat. - Trustw.	.295**	.632**	.470**	.202*	.501**	.329**
30. HD Empat. - Reconc.	.399**	.356**	.561**	.230*	.274**	.405**
31. B5 Agreeabl	.014	-.058	-.004	.090	-.003	.027
32. B5 Conscien	-.102	.050	-.057	.052	.123	.054
33. B5 Extravers	.112	.123	.115	.190*	.200*	.134
34. B5 Neurot	-.053	-.067	-.036	.007	-.115	-.031
35. B5 Openness	.106	.095	.177	.069	.106	.057
36. Self-Rep Dominance	-.087	.068	-.008	.008	.111	.052
37. Indiv. Self-Concept	-.151	.005	-.051	.041	.005	.053
38. Relat. Self-Concept	.047	-.020	.063	.024	.001	.020
39. Collec. Self-Concept	-.023	-.030	-.027	.048	.144	.097
40. Entity Th. of Char.	-.035	-.143	-.158	.016	-.003	-.040
41. Entity Th. of Mor.	-.117	-.216*	-.160	.062	.000	.005
42. Horiz. Individualism	-.175	-.148	-.172	-.033	-.020	-.077
43. Vert. Individualism	-.088	.054	-.016	.092	.111	.148
44. Horiz. Collectivism	.153	.012	.040	.175	.108	.139
45. Vert. Collectivism	.045	-.059	-.019	.084	.027	.106

Note. * $p < 0.05$; ** $p < 0.01$; LD - low facial dominance, HD = high facial dominance; Coefficient alphas in parentheses where applicable.

Table 5. - part 6 of 8

Correlation Table of Variables Measured in Study 1

	25	26	27	28	29	30
25. HD Empow. - Sinc.	(.98)					
26. HD Empow. - Trustw.	.667**	(.92)				
27. HD Empow. - Reconc.	.804**	.716**	(.89)			
28. HD Empat. - Sinc.	.401**	.362**	.428**	(.98)		
29. HD Empat. - Trustw.	.432**	.688**	.476**	.699**	(.93)	
30. HD Empat. - Reconc.	.388**	.452**	.531**	.856**	.732**	(.88)
31. B5 Agreeabl	.041	.107	.070	.031	.054	.080
32. B5 Conscien	.009	.075	.001	.078	.100	.009
33. B5 Extravers	.295**	.192*	.221*	.084	.111	-.004
34. B5 Neurot	-.188*	-.193*	-.200*	-.193*	-.169	-.178
35. B5 Openness	.217*	.218*	.301**	.212*	.241**	.198*
36. Self-Rep Dominance	.042	-.004	.003	.053	.074	-.026
37. Indiv. Self-Concept	-.003	-.007	-.037	.011	-.008	-.024
38. Relat. Self-Concept	-.009	.057	.064	-.044	.028	-.014
39. Collec. Self-Concept	.078	.114	.099	-.063	.025	-.094
40. Entity Th. of Char.	-.035	-.168	-.142	-.138	-.219*	-.196*
41. Entity Th. of Mor.	-.081	-.240**	-.149	-.126	-.229*	-.133
42. Horiz. Individualism	-.130	-.124	-.093	-.120	-.134	-.178
43. Vert. Individualism	-.009	-.009	-.056	-.027	-.031	-.030
44. Horiz. Collectivism	.148	.098	.197*	.035	.088	.031
45. Vert. Collectivism	.089	.036	.035	.019	.003	-.051

Note. * $p < 0.05$; ** $p < 0.01$; LD - low facial dominance, HD = high facial dominance; Coefficient alphas in parentheses where applicable.

Table 5. - part 7 of 8

Correlation Table of Variables Measured in Study 1

	31	32	33	34	35	36	37	38
31. B5 Agreeabl	(.80)							
32. B5 Conscien	.089	(.71)						
33. B5 Extravers	.071	.231*	(.75)					
34. B5 Neurot	-.362**	-.205*	-.328**	(.88)				
35. B5 Openness	.034	-.098	.336**	-.145	(.81)			
36. Self-Rep Dominance	-.453**	.226*	.343**	.052	.303**	(.83)		
37. Indiv. Self-Concept	-.362**	.103	.166	.215*	.154	.553**	(.88)	
38. Relat. Self-Concept	.185*	.037	-.003	.056	.261**	-.029	-.077	(.86)
39. Collec. Self-Concept	.277**	.420**	.289**	-.142	.206*	.119	.061	.346**
40. Entity Th. of Char.	-.074	.055	.040	.121	-.148	.069	.003	.050
41. Entity Th. of Mor.	.050	.185*	.111	.008	-.170	.092	.109	-.108
42. Horiz. Individualism	-.185*	.101	-.080	.157	.194*	.315**	.201*	.156
43. Vert. Individualism	-.352**	.215*	.206*	.195*	-.072	.512**	.738**	-.134
44. Horiz. Collectivism	.417**	.162	.372**	-.253**	.307**	-.047	-.094	.170
45. Vert. Collectivism	.164	.175	.182*	-.012	.015	-.093	-.085	.121

Note. * $p < 0.05$; ** $p < 0.01$; LD - low facial dominance, HD = high facial dominance; Coefficient alphas in parentheses where applicable.

Table 5. - part 8 of 8

Correlation Table of Variables Measured in Study 1

	39	40	41	42	43	44	45
39. Collec. Self-Concept	(.77)						
40. Entity Th. of Char.	.029	(.92)					
41. Entity Th. of Mor.	.131	.700**	(.90)				
42. Horiz. Individualism	.041	.175	.168	(.77)			
43. Vert. Individualism	.076	.154	.279**	.203*	(.79)		
44. Horiz. Collectivism	.549**	-.128	-.061	-.093	-.125	(.67)	
45. Vert. Collectivism	.383**	.006	.008	-.136	.064	.330**	(.78)

Note. * $p < 0.05$; ** $p < 0.01$; LD - low facial dominance, HD = high facial dominance; Coefficient alphas in parentheses where applicable.

Table 6

Main Effect of Component of Apology on Transgressor's Trustworthiness - Pairwise Comparisons of Target and Comparison Components

Target Component	Comparison Component	Mean Difference	Std. Error	p
Cognitive	Compensating	-.778*	.192	.001
	Empowering	.782*	.216	.003
	Empathy	1.675*	.225	.000
Compensating	Cognitive	.778*	.192	.001
	Empowering	1.560*	.204	.000
	Empathy	2.453*	.254	.000
Empowering	Cognitive	-.782*	.216	.003
	Compensating	-1.560*	.204	.000
	Empathy	.893*	.206	.000
Empathy	Cognitive	-1.675*	.225	.000
	Compensating	-2.453*	.254	.000
	Empowering	-.893*	.206	.000

Note. Mean Difference = Target Component - Comparison Component; all comparisons are based on estimated marginal means, mean differences are significant at the .05 level.

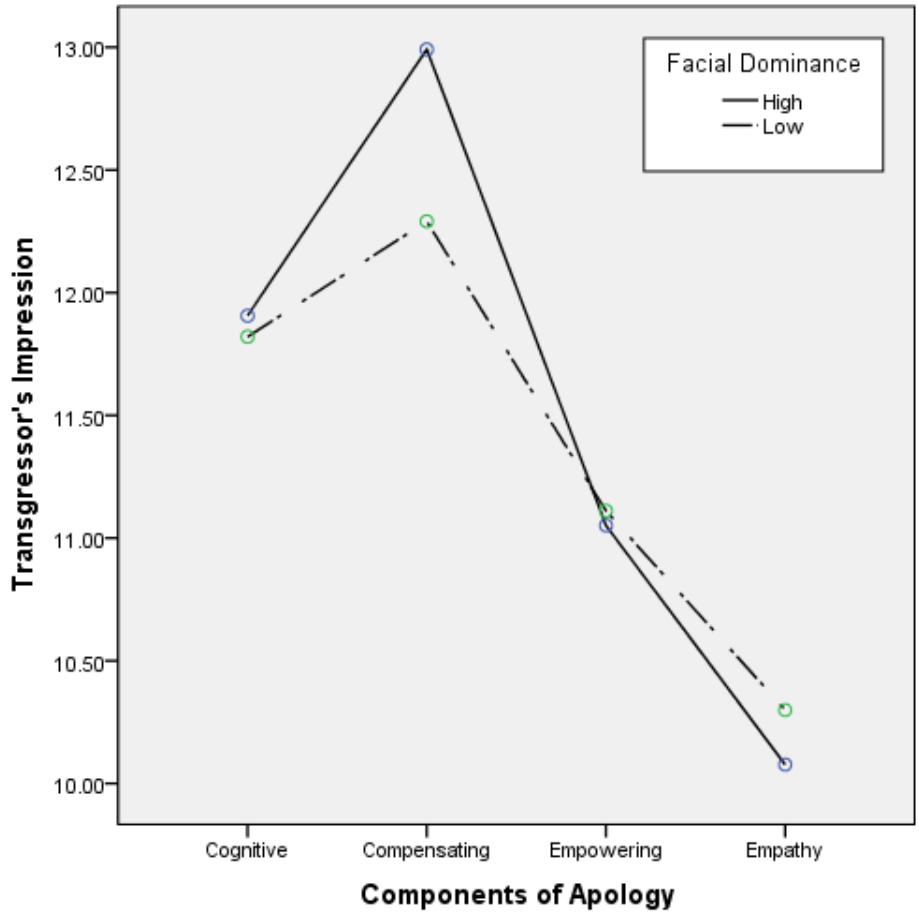


Figure 2 Graph of Interaction between Facial Dominance and Components of Apology

Table 7

High vs Low Facial Dominance Contrasts of Interaction Between Facial Dominance and Component of Apology in Effect on Transgressor's Trustworthiness

High Dominance vs Low Dominance in	*M*	*SD*	*t*	*df*	*p*
Cognitive Component	0.09	2.95	0.31	116	.755
Compensating Component	0.70	3.52	2.15	116	.034
Empowering Component	-0.06	2.99	-0.22	116	.829
Empathy Component	-0.22	2.84	-0.85	116	.399

Table 8

Main Effect of Component of Apology on Willingness to Reconcile with the Transgressor - Pairwise Comparisons of Target and Comparison Components

Target Component	Comparison Component	Mean Difference	Std. Error	p
Cognitive	Compensating	-0.538	.131	.000
	Empowering	0.466	.148	.012
	Empathy	1.329	.164	.000
Compensating	Cognitive	0.538	.131	.000
	Empowering	1.004	.153	.000
	Empathy	1.868	.193	.000
Empowering	Cognitive	-0.466	.148	.012
	Compensating	-1.004	.153	.000
	Empathy	0.863	.174	.000
Empathy	Cognitive	-1.329	.164	.000
	Compensating	-1.868	.193	.000
	Empowering	-0.863	.174	.000

Note. Mean Difference = Target Component - Comparison Component; all comparisons are based on estimated marginal means, mean differences are significant at the .05 level.

Table 9

Results of Perceived Sincerity Mediation and Moderation Analysis - Main Effect of Component on Transgressor's Impression

DV difference			Intercept		Centered Sum Sincerity		Sincerity Difference	
facial dominance	component 1	component 2	β	p	β	p	β	p
low	cognitive	compensating	0.2	0.332[c]	0.007	0.895	0.736	0.000[b]
low	compensating	empowering	0.636	0.007	0.027	0.611	0.479	0.000[b]
low	compensating	empathy	0.515	0.073[c]	0.116	0.04[a]	0.6	0.000[b]
low	cognitive	empathy	0.087	0.755[c]	0.073	0.149	0.685	0.000[b]
low	empowering	empathy	0.122	0.595[c]	0.032	0.637	0.531	0.000[b]
low	cognitive	empowering	0.195	0.361[c]	0.053	0.3	0.669	0.000[b]

Note. DV = Transgressor's impression, [a] sincerity = significant moderator, [b] sincerity = significant mediator, [c] full mediation by sincerity.

Table 10

Results of Perceived Sincerity Mediation and Moderation Analysis - Main Effect of Component on Willingness to Reconcile

DV difference			Intercept		Centered Sum Sincerity		Sincerity Difference	
facial dominance	component 1	component 2	β	p	β	p	β	p
low	cognitive	compensating	0.29	.04	-0.03	.47	0.587	.00[b]
low	compensating	empowering	0.50	.01	-0.02	.60	0.47	.00[b]
low	compensating	empathy	0.37	.06[c]	0.04	.3	0.56	.00[b]
low	cognitive	empathy	0.02	.92[c]	-0.03	.28	0.6	.00[b]
low	empowering	empathy	0.00	.98[c]	0.03	.43	0.533	.00[b]
low	cognitive	empowering	-0.12	.45[c]	-0.02	.51	0.538	.00[b]

Note. DV = Willingness to reconcile, [a] sincerity = significant moderator, [b] sincerity = significant mediator, [c] full mediation by sincerity.

Table 11

Sequence of Pre-programmed Messages Posted by Player 2

Round	Player 2's message	Decision
1	hello! lets cooperate >_<	Cooperate
2		Cooperate
3	keep it up!!	Cooperate
4		Cooperate
5	nice job =)	Cooperate
6		Cooperate
7		Compete
8	I thought you'd pick compete now	Compete
9		Compete
10	I felt I had to protect myself	Compete
11		Compete
12	<apology manipulation>[a]	Cooperate
13		Cooperate
14		Mirroring Player 1
15		Mirroring Player 1
16		Mirroring Player 1
17		Mirroring Player 1

Note. [a] Here one of the three manipulation statements or no text at all was inserted according to the condition.

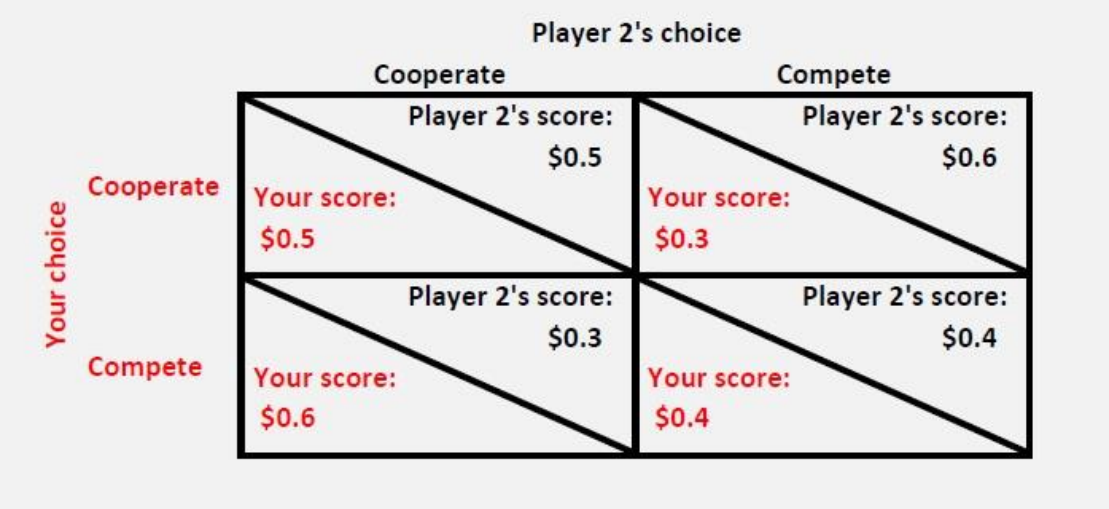


Figure 3 Payoff Matrix used in Prisoner's Dilemma Game in Study 2

Table 12 – part 1 of 7

Correlation Table of Variables Measured in Study 2

	1	2	3	4	5
1. number of "compete" before transgression	-				
2. number of compete between transgression and apology	-.014	-			
3. number of compete after apology including the last round	-.033	.309**	-		
4. number of compete after apology without the last round	-.019	.276**	.976**	-	
5. Decision - last round	-.063	.305**	.730**	.562**	-
6. Cumulative Profit	.368**	.766**	.008	.038	-.088
7. trustworth	.136	-.135	-.614**	-.552**	-.596**
8. sincerity	.109	-.189*	-.430**	-.352**	-.475**
9. severity	.014	.051	.293**	.260**	.293**
10. intentionality	-.001	-.039	.136	.103	.188*
11. voluntarity	.284**	-.118	-.158	-.136	-.154
12. unexpectednes	.009	.132	.330**	.299**	.284**
13. vulnerability	.139	.062	.000	.036	-.102
14. irrevocability	-.101	.026	.086	.045	.167*
15. costliness	.100	.057	.144	.135	.112
16. SVO_Prosoc	-.095	-.273**	-.402**	-.372**	-.356**
17. SVO_Indiv	.071	.268**	.443**	.414**	.378**
18. SVO_Compet	.136	.058	.028	-.001	.107
19. male	-.078	.042	.135	.132	.097
20. age	-.110	-.017	.071	.069	.050
21. English ability	-.051	.063	.166*	.150*	.160*
22. B5_agree	-.041	-.065	-.156*	-.125	-.200**
23. B5_conscien	.016	.072	.041	.056	-.019
24. B5_extrav	-.067	-.112	-.038	-.023	-.072
25. B5_neurot	-.016	-.142	-.132	-.141	-.059
26. B5_open	-.041	-.080	-.048	-.042	-.051
27. horiz_indiv	-.031	.183*	.178*	.183*	.101
28. vertic_indiv	.058	.232**	.242**	.199**	.288**
29. horiz_collect	-.052	-.246**	-.312**	-.275**	-.315**
30. vertic_collect	-.052	-.162*	-.068	-.044	-.120
31. it_char	-.015	.061	.061	.068	.020
32. it_mor	-.042	.104	.143	.133	.125
33. selfconcept_indiv	.062	.050	.099	.071	.153*
34. selfconcept_relat	.026	-.128	-.254**	-.219**	-.275**
35. selfconcept_collect	-.078	-.225**	-.224**	-.195*	-.236**

Note. * $p < 0.05$; ** $p < 0.01$; Coefficient alphas in parentheses where applicable.

Table 12. - part 2 of 7

Correlation Table of Variables Measured in Study 2

	6	7	8	9	10
7. trustworth	.125	(.89)			
8. sincerity	-.030	.582**	(.93)		
9. severity	-.068	-.337**	-.158	(.85)	
10. intentionality	-.086	-.257**	-.158	.408**	(.86)
11. voluntarity	.033	.256**	.410**	.043	-.015
12. unexpectednes	.026	-.316**	-.222**	.104	.073
13. vulnerability	.183*	.189*	.291**	.002	.058
14. irrevocability	-.083	-.251**	-.142	.211*	.246**
15. costliness	.040	-.009	.153	.182*	.227**
16. SVO_Prosoc	-.183*	.314**	.256**	-.003	.095
17. SVO_Indiv	.130	-.382**	-.312**	.088	-.022
18. SVO_Compet	.080	-.024	-.069	-.188*	-.129
19. male	-.019	-.101	-.082	.181*	.235**
20. age	-.064	.005	-.073	.014	.015
21. English ability	-.018	-.158*	-.111	.227**	.263**
22. B5_agree	-.049	.125	.213*	-.111	-.062
23. B5_conscien	.041	.070	.001	-.020	-.052
24. B5_extrav	-.034	.040	.172*	-.070	-.102
25. B5_neurot	-.090	.002	.032	-.070	-.113
26. B5_open	-.070	.105	.160	-.018	.134
27. horiz_indiv	.114	-.136	-.022	.172*	.239**
28. vertic_indiv	.111	-.164*	-.172*	.171*	.081
29. horiz_collect	-.126	.281**	.273**	-.037	.077
30. vertic_collect	-.092	.067	.024	.018	.012
31. it_char	.055	-.008	.090	-.048	.048
32. it_mor	.057	-.155*	-.078	-.013	-.031
33. selfconcept_indiv	.015	-.171*	-.116	.065	.016
34. selfconcept_relat	.000	.257**	.250**	-.068	.130
35. selfconcept_collect	-.160*	.206**	.242**	.045	.145

Note. * $p < 0.05$; ** $p < 0.01$; Coefficient alphas in parentheses where applicable.

Table 12. - part 3 of 7

Correlation Table of Variables Measured in Study 2

	11	12	13	14	15
11. voluntarity	(.90)				
12. unexpectednes	.023	(.72)			
13. vulnerability	.335**	.054	(.72)		
14. irrevocability	.045	.208*	.123	(.90)	
15. costliness	.240**	.052	.245**	.093	(.72)
16. SVO_Prosoc	.063	-.108	.064	.085	-.002
17. SVO_Indiv	-.065	.243**	-.092	.008	-.031
18. SVO_Compet	-.023	-.110	-.101	-.173*	-.014
19. male	-.129	-.085	.013	.082	.090
20. age	-.072	-.089	.046	-.003	-.117
21. English ability	.079	.173*	-.011	.117	.000
22. B5_agree	.182*	.016	.189*	-.151	.077
23. B5_conscien	.025	.079	-.003	-.148	-.058
24. B5_extrav	.144	.096	.052	.037	-.056
25. B5_neurot	-.059	.011	-.048	.103	-.038
26. B5_open	.099	-.018	-.009	.062	-.011
27. horiz_indiv	-.045	.167*	-.002	.055	.173*
28. vertic_indiv	-.078	.184*	.026	.282**	.035
29. horiz_collect	.339**	-.011	.209*	.072	.182*
30. vertic_collect	.130	.011	.111	.084	.123
31. it_char	-.043	.035	.014	.008	.101
32. it_mor	-.072	.162	-.002	.088	.160
33. selfconcept_indiv	-.111	.117	-.063	.186*	-.018
34. selfconcept_relat	.220**	.062	.155	.085	.061
35. selfconcept_collect	.281**	-.039	.168*	.015	-.036

Note. * $p < 0.05$; ** $p < 0.01$; Coefficient alphas in parentheses where applicable.

Table 12. - part 4 of 7

Correlation Table of Variables Measured in Study 2

	17	18	19	20	21
18. SVO_Compet	-.026	-			
19. male	-.098	-0.15	-		
20. age	-.069	-.122	.447**	-	
21. English ability	.049	-.072	.151*	-.096	-
22. B5_agree	-.137	.052	-.070	-.029	-.014
23. B5_conscien	-.010	-.033	.119	.116	.161*
24. B5_extrav	-.003	.054	.083	.085	.064
25. B5_neurot	-.044	.033	-.370**	-.235**	-.188*
26. B5_open	-.065	-.085	.070	-.011	.149*
27. horiz_indiv	.076	-.024	.148	.013	.202**
28. vertic_indiv	.175*	.077	.168*	.043	.130
29. horiz_collect	-.258**	-.114	.038	-.029	.163*
30. vertic_collect	-.015	-.019	.022	-.024	-.038
31. it_char	.183*	.031	-.093	-.105	-.006
32. it_mor	.199**	.061	-.091	-.101	-.056
33. selfconcept_indiv	.120	.059	.115	.067	.001
34. selfconcept_relat	-.212**	-.027	-.126	-.093	.055
35. selfconcept_collect	-.186*	-.108	-.064	.085	.092

Note. * $p < 0.05$; ** $p < 0.01$; Coefficient alphas in parentheses where applicable.

Table 12. - part 5 of 7

Correlation Table of Variables Measured in Study 2

	22	23	24	25	26
22. B5_agree	(.73)				
23. B5_conscien	.180*	(.73)			
24. B5_extrav	.182*	.048	(.67)		
25. B5_neurot	-.227**	-.410**	-.207**	(.85)	
26. B5_open	.111	.024	.134	-.152*	(.74)
27. horiz_indiv	-.230**	.173*	-.072	-.199**	.226**
28. vertic_indiv	-.164*	.053	.039	.014	.091
29. horiz_collect	.375**	.026	.225**	-.014	.232**
30. vertic_collect	.242**	.102	.144	.089	-.012
31. it_char	.043	.029	.045	.076	.080
32. it_mor	.012	-.031	.057	.119	-.073
33. selfconcept_indiv	-.183*	-.030	.046	.182*	-.040
34. selfconcept_relat	.282**	.027	.097	.098	.300**
35. selfconcept_collect	.230**	.210**	.147	-.011	.158*

Note. * $p < 0.05$; ** $p < 0.01$; Coefficient alphas in parentheses where applicable.

Table 12. - part 6 of 7

Correlation Table of Variables Measured in Study 2

	27	28	29	30	31
27. horiz_indiv	(.76)				
28. vertic_indiv	.305**	(.70)			
29. horiz_collect	-.079	-.104	(.73)		
30. vertic_collect	-.088	.068	.354**	(.75)	
31. it_char	.135	.238**	.027	.089	(.86)
32. it_mor	.086	.208**	-.015	.179*	.708**
33. selfconcept_indiv	.180*	.581**	-.092	-.029	.178*
34. selfconcept_relat	.038	.066	.522**	.331**	.105
35. selfconcept_collect	.079	-.013	.448**	.306**	.015

Note. * $p < 0.05$; ** $p < 0.01$; Coefficient alphas in parentheses where applicable.

Table 12. - part 7 of 7

Correlation Table of Variables Measured in Study 2

	32	33	34	35
32. it_mor	(.85)			
33. selfconcept_indiv	.170*	(.74)		
34. selfconcept_relat	.017	.106	(.81)	
35. selfconcept_collect	-.007	.047	.504**	(.77)

Note. * $p < 0.05$; ** $p < 0.01$; Coefficient alphas in parentheses where applicable.

Table 13

Main Effect of Component of Apology on Number of Competitions after Apology Manipulation - Pairwise Comparisons of Target and Comparison Components

Target Component	Comparison Component	Mean Difference	Std. Error	p
no apology	cognitive	1.69	0.37	0.00
	compensating	1.86	0.37	0.00
	empathy	1.79	0.37	0.00
cognitive	no apology	-1.69	0.37	0.00
	compensating	0.17	0.37	1.00
	empathy	0.10	0.37	1.00
compensating	no apology	-1.86	0.37	0.00
	cognitive	-0.17	0.37	1.00
	empathy	-0.07	0.38	1.00
empathy	no apology	-1.79	0.37	0.00
	cognitive	-0.10	0.37	1.00
	compensating	0.07	0.38	1.00

Note. Mean Difference = Target Component - Comparison Component; all comparisons are based on observed means.

Table 14

Main Effect of Component of Apology on Transgressor's Trustworthiness - Pairwise Comparisons of Target and Comparison Components

Target Component	Comparison Component	Mean Difference	Std. Error	p
no apology	cognitive	-2.42	0.86	0.03
	compensating	-3.11	0.87	0.00
	empathy	-3.59	0.87	0.00
cognitive	no apology	2.42	0.86	0.03
	compensating	-0.69	0.87	1.00
	empathy	-1.17	0.87	1.00
compensating	no apology	3.11	0.87	0.00
	cognitive	0.69	0.87	1.00
	empathy	-0.48	0.89	1.00
empathy	no apology	3.59	0.87	0.00
	cognitive	1.17	0.87	1.00
	compensating	0.48	0.89	1.00

Note. Mean Difference = Target Component - Comparison Component; all comparisons are based on observed means.

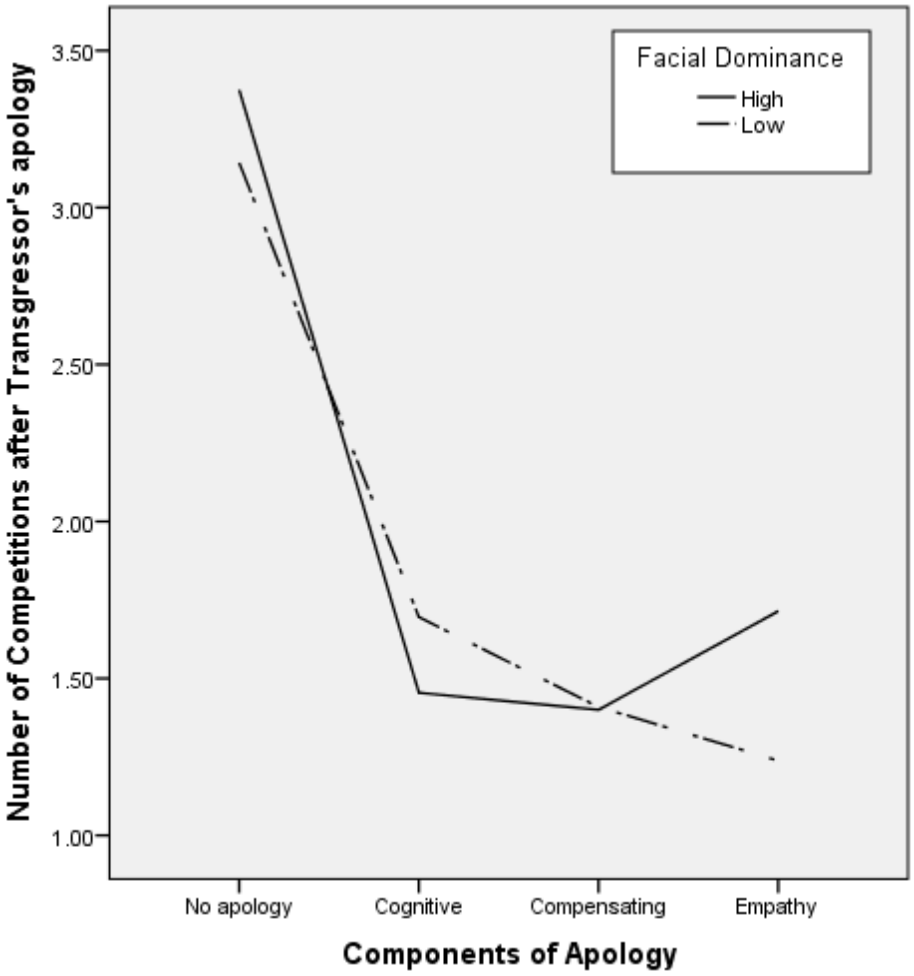


Figure 4 Graph of the Main Effect of Components of Apology on Number of Competitions after Transgressor's Apology

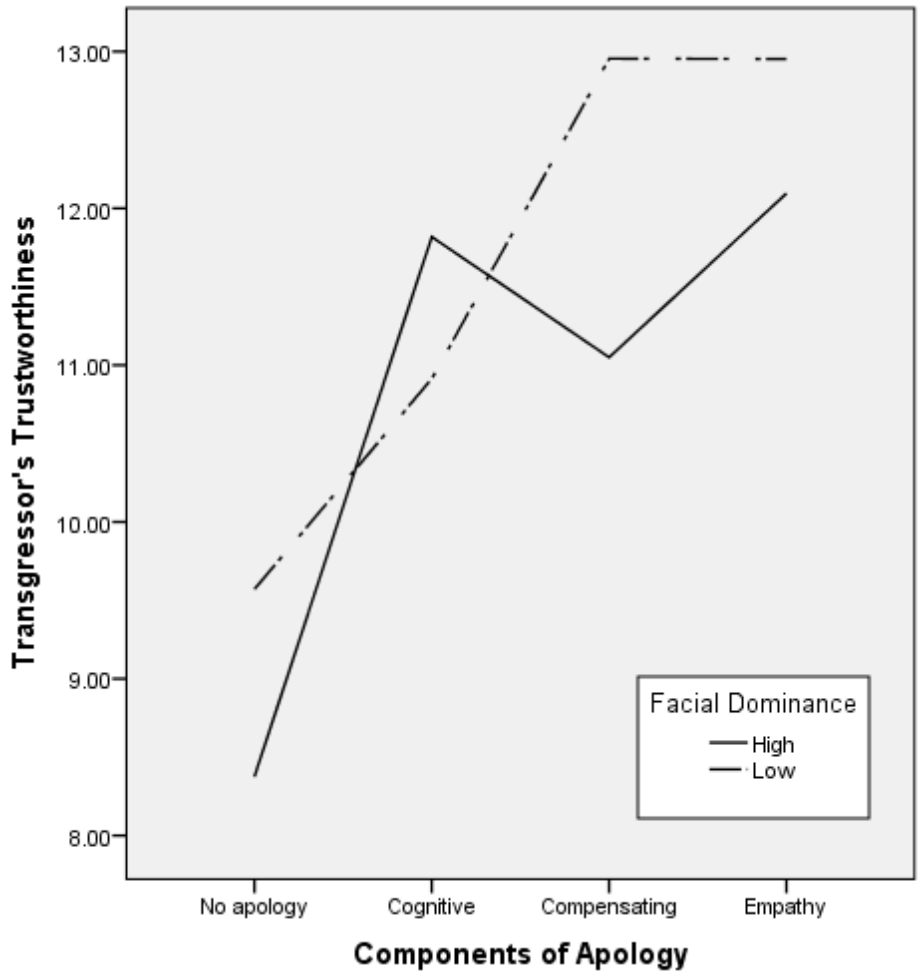
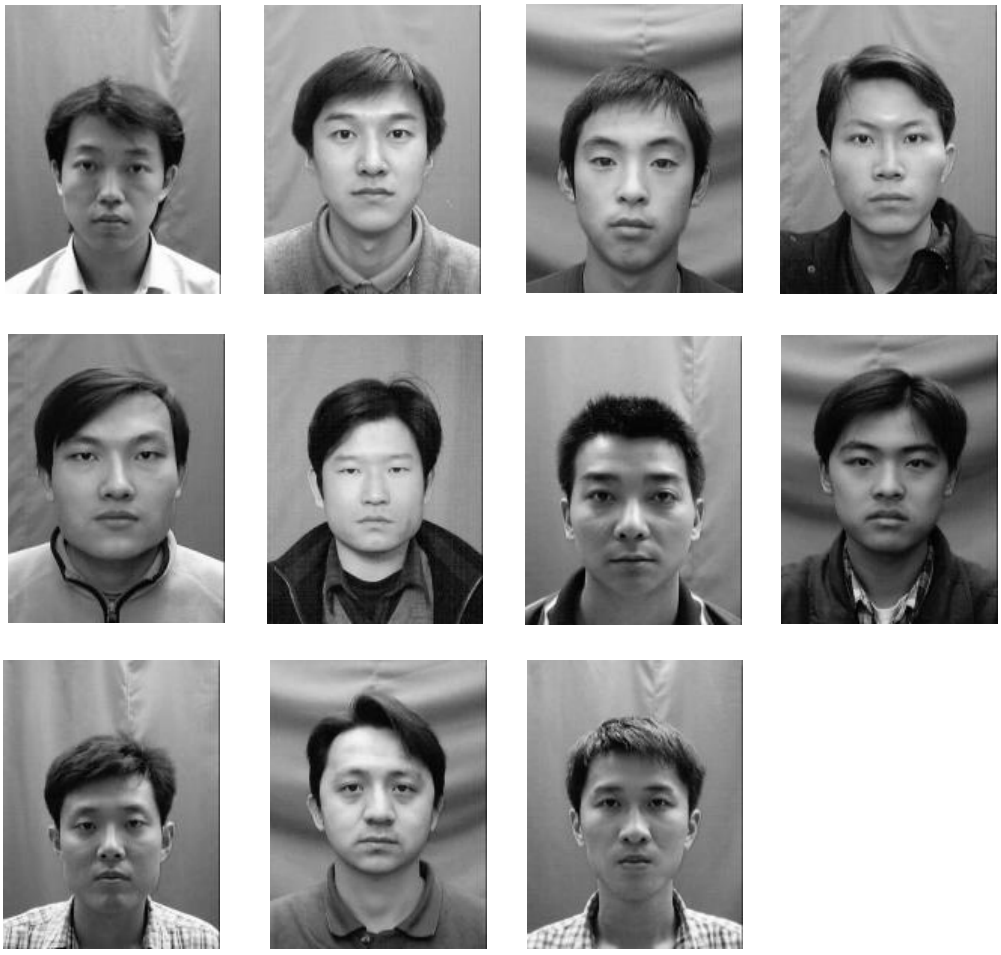


Figure 5 Graph of the Main Effect of Components of Apology on Transgressor's Trustworthiness

Appendices

Appendix A – Pilot study 1

(A) Stimuli pictures



Not at all						Extremely so
1	2	3	4	5	6	7

Dominance

1. Overall, how dominant is the person on the picture?
2. Overall, how submissive is the person on the picture?

Attractiveness

3. Overall, how attractive is the person on the picture?
4. Overall, how good looking is the person on the picture?

Trustworthiness

5. Overall, how trustworthy is the person on the picture?
6. Overall, how reliable is the person on the picture?

Intelligence

7. Overall, how intelligent is the person on the picture?
8. Overall, how competent is the person on the picture?

Age

9. How old is the person on the picture? _____

(B) Demographic information

Indicate your gender. Male/Female
How old are you? _____
What ethnic group do you see yourself as?

Chinese	Indian	Malay	Others
1	2	3	4

Have you ever worked in an office/administrative position? Yes/No
How long have you been working in office/administrative position? _____

Do you have any comments about the study? _____

Appendix B – Pilot study 2

(A) Transgression scenarios

Strongly agree				Strongly disagree
1	2	3	4	5

Severity

1. The colleague's action was serious.
2. The colleague's action was damaging.
3. The colleague's action was severe.

Intentionality

4. The colleague's action was intentional.
5. The colleague's action was deliberate.
6. The colleague's action was calculated.

Goal obstruction

7. The colleague's action was blocking my progress.
8. The colleague's action prevented me from achieving what I wanted.
9. The colleague's action frustrated my efforts.

Norm violation

10. The colleague's action crossed the standards of professionalism.
11. The colleague's action was not how a sensible colleague should behave.
12. The colleague's action was wrong.

Power derogation

13. The colleague's action humiliated me.
14. The colleague's action sabotaged me.
15. The colleague's action put me down.

Scenario 1

You have a colleague that you share an office with. Your roles in the company are very similar, but you work for different teams. The workload of the both of you fluctuates a lot throughout the month and since each of you can do the work of the other one, you help each other out during the times when one of you has too much work. This time it was you, who had too much work, so you asked the colleague to finish one relatively important task. The colleague accepted, and you considered the task done and focused on other tasks. After a deadline you have found out that the colleague did not submit the finished task.

Scenario 2

You have a colleague that you share an office with. Your roles in the company are very similar, and sometimes you help each other out with the workload. In one occasion, this colleague did not deliver a message about an important appointment that you consequently missed. The colleague knew about the importance of the message.

Scenario 3
You have a colleague that you share an office with. Your roles in the company are very similar, and sometimes you help each other out with the workload. During a feedback session with your team you were asked to evaluate the performance of this colleague. You gave mostly positive feedback and you mentioned few negatives of little consequence, much less than in fact happened, because you did not want to humiliate the colleague in front of other team members. However, when it was the colleague's turn, (s)he talked mostly about your negatives and how they should be dealt with, even though you know that you both gave similar level of performance.

Scenario 4
You have a colleague that you share an office with. Your roles in the company are very similar, and sometimes you help each other out with the workload. During an informal team meeting, your colleague told in front of your manager about an incident when you misspelled a client's name, even though the colleague committed the same mistake in the past. This happened after the management of the company sent out a memo that warned employees about this particular mistake.

Scenario 5
You have a colleague that you share an office with and your roles in the company are very similar. The workload of the both of you fluctuates a lot throughout the month and since each of you can do the work of the other one, you help each other out during the times when one of you has too much work. This time it was you, who helped your colleague on an important project. Afterward, during a team meeting, your manager praised the work on the project and the colleague took the whole credit.

Scenario 6
You have a colleague that you share an office with. Your roles in the company are very similar, and sometimes you help each other out with the workload. One day you overhear other employees talking about a private information, that you shared in confidence with this colleague. There is no way the employees could know this information other than that the colleague told them about it.

(B) Demographic information (The same like in Pilot study 1)

Appendix C – Pilot study 3a

(A) Apology components

Strongly agree				Strongly disagree
1	2	3	4	5

In general, a good apology should include...

Compensating component
1. an offer to compensate me for what happened
2. an offer to help me recover my damages
3. an offer to do something specific to make up for what happened
4. a suggestion that he/she reimburse me in some way

Empathy component
5. an expression of great concern for my suffering
6. a show of empathy toward me
7. an indication that he/she truly cares about how I feel
8. an expression of tenderness toward me
9. true sympathy for me

Cognitive component
10. a show of concern for breaking an important social norm
11. an acknowledgment that he/she didn't live up to group standards
12. an acknowledgment that he/she violated an important group rule
13. an admission that he/she did not live up to the standards of the group
14. a verbal recognition that he/she failed to act as a good group member

Empowering component
15. an expression of vulnerability in front of me
16. humble and submissive formulations
17. self-humiliating and self-implicating expressions related to the incident
18. and expressions of humility in front of me
19. a denouncement of the transgressing deed

(B) Demographic information (the same like in Pilot study 1)

Appendix D – Pilot study 3b

(A) Apology components manipulation statements

Cognitive component
"It was wrong and it was my fault."

Compensating component:
"I would like to make it up to you – what would it take so you could trust me again?"

Empowering component
"Can you please forgive me?"

Empathy component
"I see how this made you feel."

Statement '<*insert manipulation statement*>' expresses...

Strongly agree				Strongly disagree
1	2	3	4	5

Compensating component
1. an offer to compensate me for what happened
2. an offer to help me recover my damages
3. an offer to do something specific to make up for what happened
4. a suggestion that he/she reimburse me in some way

Empathy component
5. an expression of great concern for my suffering
6. a show of empathy toward me
7. an indication that he/she truly cares about how I feel
8. an expression of tenderness toward me
9. true sympathy for me

Cognitive component
10. a show of concern for breaking an important social norm
11. an acknowledgment that he/she didn't live up to group standards
12. an acknowledgment that he/she violated an important group rule
13. an admission that he/she did not live up to the standards of the group
14. a verbal recognition that he/she failed to act as a good group member

Empowering component
15. an expression of vulnerability in front of me
16. humble and submissive formulations
17. self-humiliating and self-implicating expressions related to the incident

18. and expressions of humility in front of me
19. a denouncement of the transgressing deed

(B) Demographic information (the same like in Pilot study 1)

Appendix E – Study 1

(A) Facial dominance manipulation – 8 faces, refer to Figure 1

(B) Transgression scenarios

Each of the following scenarios will be presented with each of the 4 component of apology in random order and with randomly assigned picture of face. This will then be rated on the following scales:

Strongly agree						Strongly disagree
1	2	3	4	5	6	7

Severity

1. The colleague's action was serious.
2. The colleague's action was severe.

Intentionality

3. The colleague's action was intentional.
4. The colleague's action was deliberate.

Sincerity of the apology

1. The colleague's reaction was sincere.
2. The colleague's reaction was honest.

Willingness to Reconcile the Relationship scale (Tomlinson, Dineen & Lewicki, 2004)

1. It is very likely that I would continue an informal relationship with the colleague.
2. Given the colleague's actions, I am willing to let the colleague to try to reconcile our relationship.
3. It would be very difficult to rebuild the relationship with the colleague back to the point where it was before the incident.

The rest of the items will be rated on the following 7-point scale:

Not at all						Extremely so
1	2	3	4	5	6	7

Transgressor's Trustworthiness scale

1. Based on the colleague's reactions, do you think the colleague is trustworthy?
2. Based on the colleague's reactions, do you think the colleague will take your interest into account?

3. Based on the colleague's reactions, how reliable is the colleague?

Components of apology:

1. I am sorry, it was wrong and it was my fault.
2. I am sorry, I see how this made you feel.
3. I am sorry, can you please forgive me?
4. I am sorry, I would like to make it up to you – what would it take so you could trust me again?

Scenario formats for Study 1:

Scenario 1

You have a colleague that you can see on the picture. You share an office and your roles in the company are very similar, but you work for different teams. The workload of the both of you fluctuates a lot throughout the month and since each of you can do the work of the other one, you help each other out during the times when one of you has too much work. This time it was you, who had too much work, so you asked the colleague to finish one relatively important task. The colleague accepted and you considered the task done and focused on other tasks. After a deadline you have found out that the colleague did not submit the finished task. After the incident during a private confrontation, the colleague said:

Scenario 2

You have a colleague that you can see on the picture. Your roles in the company are very similar, you share the same office and sometimes you help each other out with the workload. In one occasion, this colleague did not deliver a message about an important appointment that you consequently missed. The colleague knew about the importance of the message. After the incident during a private confrontation, the colleague said:

(C) 16-item Horizontal and Vertical Individualism and Collectivism (Triandis & Gelfand, 1998)

Strongly disagrees				Strongly agree
1	2	3	4	5

1. I often do my own thing.
2. I'd rather depend on myself than others.
3. I rely on myself most of the time; I rarely rely on others.
4. My personal identity, independent of others, is very important to me.

5. Competition is the law of nature.
6. When another person does better than I do, I get tense and aroused.
7. Winning is everything.
8. It is important that I do my job better than others.
9. The well being of my co-workers is important to me.
10. If a co-worker gets a prize, I would feel proud.
11. I feel good when I cooperate with others.
12. To me, pleasure is spending time with others.
13. Parents and children must stay together as much as possible.
14. It is my duty to take care of my family, even when I have to sacrifice what I want.
15. Family members should stick together, no matter what sacrifices are required.
16. It is important to me that I respect the decisions made by my groups.

(D) 44-item Big Five Inventory (John & Srivastava, 1999)

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who likes to spend time with others? Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement.

Disagree strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree strongly
1	2	3	4	5

I see Myself as Someone Who...

1. Is talkative
2. Tends to find fault with others
3. Does a thorough job
4. Is depressed, blue
5. Is original, comes up with new ideas
6. Is reserved
7. Is helpful and unselfish with others
8. Can be somewhat careless
9. Is relaxed, handles stress well
10. Is curious about many different things
11. Is full of energy
12. Starts quarrels with others
13. Is a reliable worker
14. Can be tense
15. Is ingenious, a deep thinker
16. Generates a lot of enthusiasm

17. Has a forgiving nature
18. Tends to be disorganized
19. Worries a lot
20. Has an active imagination
21. Tends to be quiet
22. Is generally trusting
23. Tends to be lazy
24. Is emotionally stable, not easily upset
25. Is inventive
26. Has an assertive personality
27. Can be cold and aloof
28. Perseveres until the task is finished
29. Can be moody
30. Values artistic
31. Is sometimes shy, inhibited
32. Is considerate and kind to almost everyone
33. Does things efficiently
34. Remains calm in tense situations
35. Prefers work that is routine
36. Is outgoing, sociable
37. Is sometimes rude to others
38. Makes plans and follows through with them
39. Gets nervous easily
40. Likes to reflect, play with ideas
41. Has few artistic interests
42. Likes to cooperate with others
43. Is easily distracted
44. Is sophisticated in art, music, or literature

(E) Levels of Self-concept scale (Selenta & Lord, 2005)

Strongly Disagree	2	3	4	5	Strongly Agree

1. I thrive on opportunities to demonstrate that my abilities or talents are better than those of other people.
2. I have a strong need to know how I stand in comparison to my coworkers.
3. I often compete with my friends.
4. I feel best about myself when I perform better than others.
5. I often find myself pondering over the ways that I am better or worse off than other people around me.
6. If a friend was having a personal problem, I would help him/her even if it meant sacrificing my time or money.
7. I value friends who are caring, empathic individuals.

8. It is important to me that I uphold my commitments to significant people in my life.
9. Caring deeply about another person such as a close friend or relative is important to me.
10. Knowing that a close other acknowledges and values the role that I play in their life makes me feel like a worthwhile person.
11. Making a lasting contribution to groups that I belong to, such as my work organization, is very important to me.
12. When I become involved in a group project, I do my best to ensure its success.
13. I feel great pride when my team or group does well, even if I'm not the main reason for its success.
14. I would be honored if I were chosen by an organization or club that I belong to, to represent them at a conference or meeting.
15. When I'm part of a team, I am concerned about the group as a whole instead of whether individual team members like me or whether I like them.

(F) Implicit Theory of Morality scale (Chiu et al., 1997)**.**

Strongly Disagree	2	3	4	5	Strongly Agree

1. The kind of person someone is something very basic about them and can't be changed very much.
2. People can do things differently, but the important parts of who they are can't really be changed.
3. Everyone is a certain kind of person and there is not much that can be done to really change that.
4. A person's moral character is something very basic about them and it can't be changed much.
5. Whether a person is responsible and sincere or not is deeply ingrained in their personality. It cannot be changed much.
6. There is not much that can be done to change a person's moral traits (e.g., conscientiousness, uprightness, and honesty).

(G) Demographic information (the same as in Pilot study 1)

Appendix F – Study 2

(A) Facial dominance manipulation – 8 faces, refer to Figure 1

(B) Player 2's algorithm – refer to Table 11

Components of apology manipulation statements:

Cognitive component
"I'm sorry, it's my fault we are losing points now...could we both cooperate again?"

Empathy component
"I'm sorry for this, I see how this made you feel...could we both cooperate again?"

Compensating component
"I'm sorry for this, is there anything I can do so we could both cooperate again?"

No apology condition
Player 2 just switched to cooperative choices.

(C) Measures

Strongly agree						Strongly disagree
1	2	3	4	5	6	7

Sincerity of the apology
1. The Player 2's attempt to restore cooperation was sincere.
2. The Player 2's attempt to restore cooperation was genuine.

Unexpectedness
3. Player 2's attempt to reconcile was unexpected.
4. Player 2 was unlikely to try to reconcile like this.
5. Player 2's attempt to reconcile was unexpected.

Vulnerability
6. Player 2's reconciliation showed that he/she was willing to drop his/her guard.
7. Player 2 was willing to step down to try to reconcile like this.
8. Player 2's attempt to reconcile reflected his/her vulnerability

Novelty
9. I believe Player 2 tried to reconcile out of his/her own initiative.
10. I believe it was Player 2's own decision to try to reconcile.
11. Player 2 tried to reconcile out of his/her own will.

Irrevocability
12. It would be easy for Player 2 to go back on his/her word.
13. It would be easy for Player 2 to withdraw his/her attempt to reconcile.

Costliness

14. It had to be uncomfortable for Player 2 to try to reconcile like this.
15. It takes a lot to reconcile like this.
16. The reconciliation was at Player 2's expense.

The rest of the items will be rated on the following 7-point scale:

Not at all						Extremely so
1	2	3	4	5	6	7

Transgressor's Trustworthiness scale

1. Based on the attempt to restore cooperation, do you think Player 2 is trustworthy?
2. Based on the attempt to restore cooperation, do you think Player 2 will take your interest into account?
3. Based on the attempt to restore cooperation, how reliable is Player 2?

(D) 16-item Horizontal and Vertical Individualism and Collectivism (Triandis & Gelfand, 1998) – the same as in Study 1

(E) 44-item Big Five Inventory (John & Srivastava, 1999) – the same as in Study 1

(F) Levels of Self-concept scale (Selenta & Lord, 2005) – the same as in Study 1

(G) Implicit Theory of Morality scale (Chiu et al., 1997) – the same as in Study 1

(H) Social Values Orientations scale (Van Lange, 1999)

In this section, we ask you to imagine that you have been randomly paired with another person, whom we will refer to simply as the "Other." This other person is someone you do not know and that you will not knowingly meet in the future. Both you and the "Other" person will be making choices by circling either the letter A, B, or C. Your own choices will produce points for both yourself and the "Other" person. Likewise, the other's choice will produce points for him/her and for you. Every point has value: The more points you receive, the better for you, and the more points the "Other" receives, the better for him/her. Here's an example of how this task works:

	A	B	C
You get	500	500	550
Other gets	100	500	300

In this example, if you chose A you would receive 500 points and the other would receive 100 points; if you chose B, you would receive 500 points and the other 500; and if you chose C, you would receive 550 points and the other 300. So, you see that your choice influences both the number of points you receive and the number of points the other receives.

Before you begin making choices, please keep in mind that there are no right or wrong answers—choose the option that you, for whatever reason, prefer most. Also, remember that the points have value; The more of them you accumulate, the better for you. Likewise, from the "other's" point of view, the more points s/he accumulates, the better for him/her. For each of the nine choice situations, circle A, B, or C, depending on which column you prefer most:

1.

	A	B	C
You get	480	540	480
Other gets	80	280	480

2.

	A	B	C
You get	560	500	500
Other gets	300	500	100

3.

	A	B	C
You get	520	520	580
Other gets	520	120	320

4.

	A	B	C
You get	500	560	490
Other gets	100	300	490

5.

	A	B	C
You get	560	500	490
Other gets	300	500	90

6.

	A	B	C
You get	500	500	570
Other gets	500	100	300

7.

	A	B	C
You get	510	560	510
Other gets	510	300	110

8.

	A	B	C
You get	550	500	500
Other gets	300	100	500

9.

	A	B	C
You get	480	490	540
Other gets	100	490	300