Predictors of Forgiveness in Asian Female University Students

Loan Thuy Thien Bui

Senior Thesis

Asian University for Women

May 2014

Acknowledgement

I would like to thank Prof. Sharon Flicker and Prof. Sara Amin for their direction and encouragement in this project. I would like to thank the University for funding this project. I would like to thank all of my friends for their help with entering data and support throughout my research. Without any of them, this thesis would not have been accomplished.

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Abstract

The present research re-examined the relationship between thinking styles (analytic and holistic) and willingness to forgive, and causal attribution as the mediator of the relationship. It also studied alternative explanation of the relationship including collectivism, self-construal identification (interdependent and independent), as well as other predictors of forgiveness including perceived acceptability of expressing negative emotions (anger, contempt, and disgust) and empathy. Furthermore, it distinguished decisional and emotional forgiveness, as well as forgiving in-group and out-group members. The participants were 173 students from Asian University for Women. Participants completed a series of paper and pen measures regarding all the hypothesized related factors of forgiveness and their willingness to forgive. Unexpectedly, the relationship between thinking styles and forgiveness was not replicated as the previous study. None of the alternative explanation was supported by the data. However, as expected, causal attribution was found to be the most predictor of forgiveness. The inability of the data to illustrate the correlation between thinking styles as well as other factors with forgiveness might be due to the particularity of the current sample. Future research should replicate this study with a more diverse sample in term of thinking styles and cultural values.

Predictors of Forgiveness in Asian Female University Students

For the last twenty years, much research has been conducted about forgiveness because of its potential benefits for individuals as well as societies (Wade, 2010; Worthington, 2005 as cited by Baharudin, Amat, Jailani & Sumari, 2011; Fehr, Gelfand & Nag, 2010 as cited by Hook, et al., 2013). Forgiveness not only reduces individuals' negative emotions towards transgressors but also fosters positive emotions after conflicts. Therefore, these outcomes from forgiveness foster healthy relationships, help individuals to increase their life satisfaction, and improve physical as well as psychological well-being in general (e.g., Baskin & Enright, 2004 as cited in Hook, Worthington, Utsey, Davis & Burnette, 2012; Borwn, 2003 as cited by Ng & Tong, 2013; McCullough, Root, Takbak & Witvliet, 2009 as cited by Ho & Fung, 2011).

Given that forgiveness brings immense benefits to individuals and societies, identifying the factors that are related to forgiveness may help us to create conditions to foster forgiveness. A previous study (Bui & Flicker, 2013) found a positive correlation between holistic thinking styles and forgiveness, but the hypothesized mediator (causal attribution) of this relationship was not supported. The current study aims to replicate with extension of the previous study (Bui & Flicker, 2013) by re-examining the relationship between thinking styles and forgiveness, and causal attribution as the relationship's mediator. It will examine self-construal, collectivism as other possible mediators of the relationship. It will also study perceived acceptability of expressing negative emotions and empathy as other possible predictors of forgiveness. Furthermore, it will examine several aspects of forgiveness, such as, forgiveness towards in-group and out-group members as well as decisional and emotional forgiveness.

In the literature review that follows, the paper will firstly discuss the definitions of transgression and forgiveness. Secondly, the paper will discuss the relationship between styles of

thinking (analytic and holistic thinking) and forgiveness with causal attribution as the mediator. After that, it will examine other possible mediators of the relationship including collectivism, self-construal (interdependent and independent). Later on, it will look at perceived acceptability of expressing negative emotions (anger, contempt, and disgust) and empathy as predictors of forgiveness. While discussing collectivism and forgiveness, the paper will introduce distinctions between decisional and emotional forgiveness as well as forgiveness of in-group and out-group members. Finally, it will introduce the current study.

Transgression and Forgiveness

Transgressions are actions or events that go against individuals' expectations and beliefs about how these events should happen, and thus result in individuals feeling hurt and other negative emotions towards the transgressors (Thompson, et al., 2005). There are many ways that individuals can respond toward the transgressors, such as avoidance, hatred and revenge. Forgiveness is one of these ways. Forgiveness is a process in which a person who perceives a transgression against them cognitively and emotionally transforms their negative attitudes, feelings and behaviors into positive or neutral ones towards the transgressors (Thompson, et al., 2005; Enfight & Fizgiboons, 2000 as cited by Ho & Fung, 2011).

Thinking Styles and Forgiveness

Causal Attribution and Forgiveness

People often think about the causes of transgressions when considering if they should forgive the transgressors. There are two main types of causal attribution: external and internal (Heider, 1958). People who make external attribution toward events think that the cause of the event is from the external environment, such as social pressure and economic background. On the other hand, people who make internal attribution toward an event perceive the cause of the

event mostly as the actors themselves, their intention, and their personalities (Weiner, 1995). It is believed that if victims perceive the transgression mainly as transgressors' responsibilities, it will be difficult for them to forgive (Ho & Fung, 2011). Data has supported this idea. For instance, Fincham et al. (2002) found that wives who had thought that the transgression was mainly because of their husbands' responsibilities were less likely to forgive.

Until now, all research about the relationship between causal attribution and forgiveness has been done with Western populations. However there is a difference in term of causal attribution between Western and Asian population. In previous findings, Asian populations have been found to make more external attribution than Western populations (e.g., Choi et al., 2007; Choi, Dalal, Kim-Prieto & Park, 2003). Specifically, Korean participants reported more external attribution for a hypothetical deviant behavior than Americans participants (Choi et al., 2003). They also considered a greater amount of information before making final attribution than the American participants. As Asian populations tend to make more external attribution when thinking about an event than Western populations, and as external causal attribution have been found to be positively related to the tendency to forgive (Fincham et al., 2002; Ho & Fung, 2011), previous findings regarding causal attribution and forgiveness from Western populations may not be able to generalize to Asians. Therefore, it is important to look at the relationship between causal attribution and forgiveness in Asian populations.

Thinking Styles and Causal Attribution

Holistic and analytic thinking style is a cultural factor that may be related to external and internal causal attribution. Researchers understand thinking styles as composed of four dimensions: causality, attitude toward contradictions, perception of change and locus of attention (Choi, Koo & Choi J., 2007; Nisbett, Peng, Choi & Norenzayan, 2001). Specifically, in term of

causality, holistic thinkers consider a greater number of causes surrounding an event. They tend to perceive a greater connection between the actors and their external environment than analytic thinkers. Regarding attitude toward contradictions, holistic thinkers tend to have more tolerance toward contradictory ideas whereas analytic thinkers tend to prefer consistent ideas. Talking about perception of change, holistic thinkers are most likely to expect an unpredictable future while analytic thinkers would expect a linear change. For instance, if the value of a stock is decreasing, an analytic thinker will be more likely to believe that the value will continue to decrease over time while a holistic thinker would believe that might either increase or decrease. Lastly, regarding locus of attention, holistic thinkers give more attention toward the object and the environment that it belongs to while analytic thinkers tend to give more attention toward the object itself separate from its environment (Choi, Koo & Choi J., 2007).

It is thought that because holistic thinkers tend to focus on the whole context, they would be more likely to consider external factors as the cause of an event. In contrast, because analytic thinkers tend to pay attention mostly to the object separate from the context, they would be more likely to perceive the object's disposition as the cause of the event (Nisbett, Peng, Choi &Norenzayan, 2001). In other words, holistic thinkers would be more likely to make external attribution while analytic thinkers would be more likely to make internal attribution.

Thinking Styles and Forgiveness

As people who make external attribution are more likely to forgive compared to those who make internal attribution (Fincham et al., 2002; Ho & Fung, 2011); and holistic thinkers are thought to make external attribution more than analytic thinkers, we previously hypothesized that thinking styles would be positively related to the willingness to forgive (Bui & Flicker, 2013). We explained that because holistic thinkers would more likely to take surrounding factors into

consideration, the causes would not be solely put on the transgressors' shoulders, which would be more consistent with forgiveness. Our research supported this hypothesis. Among 200 online participants, including both Westerners and Asians, individuals who reported more holistic thinking reported a greater willingness to forgive (Bui & Flicker, 2013). We also found that of the four subscales of the Holism scale, Causality dimension was the factor most closely related to forgiveness. This was also consistent with our hypothesis, since causality is similar to causal attribution, and causal attribution is found to be related to forgiveness. However, unexpectedly, with a separate measure of scenario-specific, causal attribution was not found to be the mediator of the relationship between thinking styles and forgiveness (Bui & Flicker, 2013). Although we found that causal attribution was related with forgiveness, we did not find a significant relation between causal attribution and thinking styles.

The hypothesis regarding causal attribution as the mediator between thinking styles and forgiveness may be valid; but a methodological limitation may have resulted in a Type II error. Namely, the measures we chose to assess thinking styles and forgiveness were both dispositional or *trait*-like in nature whereas we measured the participant's *state* attributional style. Traits are stable attributes while states are temporary characteristics that are influenced by different situations and internal motives at these particular times. Participants' responses to the measure of attributional style may thus have been specific to the particular transgression they selected. A measure of a temporary state may not have been the best choice of mediator of the relationship between two trait measures. Thus, it is worthwhile to reexamine attributional style as a mediator of this relationship with either all dispositional measures of attributional style and forgiveness or all specific transgression measures of them. In this study, I chose to use both specific transgression measure (state) for forgiveness and attributional styles. Furthermore, in our

previous study, our survey asked the participant to remember a transgression made against them. As a result, they might be most likely to pick the transgressions in which they believed the transgression was at fault. They may have been less likely to remember a "transgression" in which they located the cause of the transgression in the environment. For this reason, the current study sought to avoid this problem by asking the participants to consider hypothetical scenarios. To replicate our previous study, I hypothesized that:

Hypothesis 1a: Holistic thinkers will be more forgiving of transgressions compared to analytic thinkers.

Hypothesis 1b: Of the four dimensions of thinking styles, Causality will be most closely related to the tendency to forgive.

Hypothesis 1c: Causal attribution would be related to forgiveness.

Hypothesis 1d: The relationship between thinking styles and forgiveness will be mediated by causal attribution.

Other possible mediators of the relationship between thinking styles and forgiveness

An alternative explanation for the finding that causal attribution did not meditate the relationship between holism and forgiveness is that the relationship may be mediated by other variables, rather than by causal attribution. Other possible mediators include collectivism, self-construal identification (interdependent and independent), empathy and perceived acceptability of expressing negative emotions (anger, contempt, and disgust).

Collectivism and Forgiveness

Collectivistic people emphasize the link between themselves and their groups. They also put their groups' benefits and goals above their own interests, and thus, act and work based on the groups' motivations. On the contrary, members of individualistic societies place personal

needs above the groups' need, and thus they tend to act based on personal interest (Hook et al., 2012). Collectivists have been also found to demonstrate more holistic ways of thinking than individualists (Nisbett & Miyamoto, 2005; Nisbett, et al., 2001).

Collectivists emphasize the importance of social harmony, reconciliation and relationship repair (Hook, Worthington & Utsey, 2009 as cited by Hook et al., 2012; Sandage & Wiens, 2001 as cited by Hook et al., 2012). Due to this emphasis, there might be social pressure to resolve conflicts as a duty, and thus victims may forgive transgressors as a duty to preserve social harmony (Ho & Fung, 2011; Hook et al., 2012). That social pressure may take precedence over other factors such as the cause of the transgression or the negative emotions of the victims, and thus, members of collectivistic societies may be more likely to forgive than members of individualistic societies, who do not experience this degree of social pressure (Ho & Fung, 2011; Hook et al., 2012). In previous studies, by measuring the level of collectivism and forgiveness, research found that collectivism was positively related to forgiveness in a Nepalese sample (Watkins et al., 2011). As holistic thinkers are more collectivistic, and collectivists are more likely to forgive, collectivism might be another explanation for the relationship between thinking styles and forgiveness. Thus, in this study, I hypothesized that:

Hypothesis 2a: The relationship between thinking styles and forgiveness will be mediated by collectivism.

Collectivism and Decisional Forgiveness

Recently, researchers have distinguished between decisional forgiveness and emotional forgiveness (Exline, Worthington, Hill & McCullough, 2003 as cited by Hook et al., 2012). Decisional forgiveness focuses more on behaving peacefully toward the transgressors. However, one may have decisionally forgiven to a transgressor without truly feeling inner peace toward

that person. On the other hand, emotional forgiveness is replacing all the negative emotions with positive emotions towards the transgressors. We can understand that regarding emotional forgiveness, the quality of the relationship between the victims and transgressors returns to the state that existed before the transgression occurred. On the other hand, decisional forgiveness is more about behavioral changes in which the victims may only try to act peacefully towards the transgressors, but not necessary resolve the issue in their hearts (Worthington, Witvliet Pietrini & Miller, 2007 as cited by Ho & Fung, 2011).

Researchers have explored the relation between collectivism and types of forgiveness. In previous studies, members of collectivistic societies have reported more decisional forgiveness than members of individualistic ones, while members from individualistic societies reported more emotional forgiveness than members of collectivistic ones (Hook et al., 2012; Ho & Fung, 2011; Watkins et al., 2011; Hook et al., 2013; Pan, 2008). Researchers provided several reasons for these findings. Firstly, because the sense of justice between collectivists and individualists is different, the ways in which collectivists and individualists perceive transgressions are also different. Individualists often perceive transgressions as unjust or unfair to themselves while collectivists often perceive transgressions as unjust to society because they threaten social harmony (Pan 2008). Thus, the purpose of forgiveness for individualists is mainly for personal healing while the purpose for collectivists is to resolve conflicts and preserve social harmony (Worthington, 2003; Hook et al., 2009 as cited by Ho & Fung, 2011). As a result of differing views on justice and the purposes of forgiveness, it is thought that individualists would show more emotional forgiveness in which they replace their negative behaviors with positive emotions so that they feel better within themselves, while collectivists would be more likely to show decisional forgiveness in which they try to reduce their negative emotions towards the

transgressors and behave friendly to them. It is not necessary that their personal feelings are complete transformed. Therefore, I hypothesized that:

Hypothesis 2b: Individuals who are more collectivistic tend to score higher in decisional forgiveness than individualistic ones.

Forgiveness and Ingroup-Outgroup

People tend to treat members of one's in-group, such as close friends, and family members, with greater care and more fairness than members of one's out-group, such as strangers and acquaintances, because they find more similarities between themselves and in-group members (Bono, 2005). In an experiment in which participants from Sicily and the United States perceived a transgression and then received an apology from the transgressor who was either a member of their own group or a member of a different group, research showed that in-group members received more sympathy and forgiveness from participants compared to members of the out-group (Bono, 2005). Thus, I hypothesized that:

Hypothesis 2c: People might be more forgiving to members of one's in-group than members of one's out-group.

Self-construal

Other explanation of the relationship between thinking styles and forgiveness is self-construal. An independent sense of self is identifying oneself as a separate subject from other relationships or groups. In contrast, an interdependent sense of self means identifying oneself with the identity of the group that one belongs to. Holistic thinkers tend to have more interdependent senses of selves compared to analytic thinkers who tend to have more independent senses of selves (Nisbett et al., 2001). Because individuals with interdependent self-construal incorporate others into their identities, forgiving others can be seen as forgiving

themselves. As a result, interdependent self-construal may be the mediator of the positive relationship between holism and forgiveness. Therefore, I hypothesized that:

Hypothesis 3: The relationship between thinking styles and forgiveness will be mediated by self-construal.

Empathy

Empathy is one of the most possible predictor of forgiveness because of the characteristics of empathy in helping others. Based on Batson's sympathy theory (1990, 1991 as cited by McCullough et al., 1997), people who are empathetic care about persons in need. Many researchers believe that empathy can help victims to understand the transgressors' perspectives, which increases compassionate feelings and behaviors to the transgressors (Malcolm, Warwar, & Greenberg, 2005; McCullough, Worthington, & Rachal, 1997 as cited by Merolla, Zhang, & Sun, 2013). An empathetic victim might perceive transgressors as persons in need, as they probably feel guilty, distressed, isolated and lonely after creating the transgressions, and thus, victims might tend to forgive so that they can help the transgressors (McCullough et al., 1997). Therefore, once a transgression happens, individuals who are empathetic to the transgressors may tend to quickly resolve it by forgiving the transgressors. Thus, I hypothesized that:

Hypothesis 4: The more empathetic a person is, the more likely they will forgive the transgressors.

Perceived Acceptability of Expressing Negative Emotions

Another possible predictor of forgiveness may be related to the degree to which individuals feel whether it is acceptable to express negative emotions. If victims do not think it is appropriate or acceptable to express negative emotions such as anger, contempt and disgust in front of others, she or he might be more likely to act peacefully toward the transgressors without

revealing their underneath negative feelings. This behavior is very similar to decisional forgiveness. Hence, I hypothesized that:

Hypothesis 5: The more a person thinks that it is not acceptable to express negative emotions, the more likely s/he would report decisional forgiveness.

Methods

Participants

Participants were 173 female students from an international women's university in Asia. Participants were recruited through university email announcements and posters around campus and participated in the study in exchange for 200 BDT (equivalent to $2.50) for their time. Table 1 displays the self-reported nationality, religion, family economic background, private school attendance, and educational degree obtained by fathers and mothers of the participants. Table 2 reports the means and standard deviations of the participants' age, years at the university, years studying abroad and years of school grade completed by their parents.

As table 1 demonstrates, the participants included students from all levels (Access Academy, Undergraduate 1, 2, 3 and 4), and ranged from 17 to 27 years of age (M=21.18, SD=1.814). As table 2 illustrates, participants were from 11 Asian countries, including 13.4% from Southeast Asia and 76.6% from South Asia. Their religions also varied. Based on the table 1, most of the participants were from middle class background. According to table 2, the participants' parents' educational level varied greatly. The average numbers of years that the participants' fathers attended school were 11.57 years (SD=5.503). The average numbers of years that the participants' mother attended school were 9.28 years (SD=5.602).

Measures

Analytic and Holistic Thinking

Participants' thinking styles were measured with the Analysis-Holism Scale (AHS; Choi, Koo & Choi J., 2007). The AHS consists of 24 items on which participants rate statements on a 7-point scale from 1= strongly disagree to 7= strongly agree. In addition to a total score, the AHS is divided into 4 subscales, each consisting of 6 items. The first subscale measures the types of causal attribution people make (e.g., "Any phenomenon has numerous numbers of causes, although some of the causes are not known"). The second subscale measures participants' level of tolerance towards contradiction (e.g., "We should avoid going to extremes"). The perception of change subscale measures the expectations that participants hold toward future events (e.g., "Current situations can change any time"). The locus of attention subscale measures whether participants tend to focus on parts or on the whole (e.g., "It is not possible to understand the parts without considering the whole picture"). The items were summed in 4 subscales and in total. The range of possible score of each subscale is from 6 to 42. The range of possible score of total is from 24 to 168. Higher scores on the total scale represent a greater tendency to apply holistic thinking. Similarly, higher scores on each of the subscales indicate that participants give greater weight to external attribution for behaviors, show greater tolerance towards contradiction, believe that the future is unpredictable, and pay more attention to the whole context. The scale has been validated with a sample of Americans and Koreans (Choi, et al., 2007) and has been used in numerous studies of thinking styles (e.g., Jen, & Lien, 2010, Konrath, Bushman, & Grove, 2009). For the current sample, the Cronbach's alpha coefficients were .707 for the total scale, .635 for the Causality subscale, .525 for the Attitude toward Contradictions subscale, .649 for the Perception of Change subscale and .679 for the Locus of Attention subscale.

Collectivism

Participants' collectivism was measured with the Individualism-Collectivism Interpersonal Assessment Inventory (ICIAI; Matsumoto, Weissman, Brown & Kupperbusch, 1997). The ICIAI includes 38 items, of which 19 items measure the participants' values and the other 19 measure their behaviors. Values are defined as "concepts or beliefs about desirable end states or behaviors that guide our selection of behaviors and evaluation of events." Behaviors are defined as the actual "engagement in each of the statements when interacting with people" (Matsumoto, Weissman, Brown & Kupperbusch, 1997). Under the value and behavior sections, four different social groups including family, close friends, colleagues and strangers were presented. Participants had to rate their agreement, from 0 to 6 with 0= not at all important to 6= very important, regarding the importance of the statements, such as "Maintain self-control toward them [family, close friends, colleagues, and strangers]" towards each social group. All items were averaged. Thus, the range of possible score is from 0 to 6. Higher scores on the ICIAI indicate greater collectivism. There is strong evidence regarding the reliability and validity of the ICIAI through cross-cultural studies (Matsumoto et al., 1997). For the current sample, the Cronbach's alpha coefficients were .931.

Self-Construal

Participants' self-construal was measured with the Self-Construal Scale (SCS; Singelis, 1994), which includes 24 items to measure one's tendency to think about oneself as associated with interdependent or independent separate from others. Participants rate the items based on a 7-point scale from 1= strongly disagree to 7= strongly agree. The scale is divided into two main subscales; the first twelve items measure the interdependent self-construal and the final twelve items measure the independent self-construal. All items of each subscale were summed

separately. The possible score of each subscale ranged from 12 to 84. Higher scores on the interdependent self-construal subscale indicate higher interdependent sense of self of the participant. Similarly, higher scores on the independent self-construal subscale indicate higher independent sense of self of the participant. For the current sample, the Cronbach's alpha coefficients were .624.

Perceived Acceptability of Negative Emotions

The participants' perceived acceptability of expressing negative emotions was measured with the abridged version of the Display Rules Assessment Inventory (DRAI**;** Matsumoto, et al., 2005). The full DRAI consists of seven basic emotions, disgust, sadness, anger, happiness, contempt, surprise and fear. Out of seven emotions, I chose three emotions that are thought to be provoked by transgressions: anger, contempt and disgust. Participants were asked to report their levels of expressing the three emotions toward five different persons (parent, older sibling, close friend, acquaintance, and teacher/professor) in public and private settings. The participants rated their answers from A to F, in which A= Show more than you feel it, B= Express it as you feel it, C=Show less than you feel it, D= Show it but with another expression, E=Hide your feelings by showing nothing, F=Hide your feelings by showing something else. The participants also had the option of "Others" if they did not think any of the given options accurately described their expressing style. If participants never experienced certain kind of negative emotion to a specific person, they can check to the place indicating that "I cannot answer this question." As this is a quantitative research design, I recorded the nominal responses into numerical value for analyses, A= .5651, B=.3842, C=.1218, D= -.1545, E= -.3828, F= -.5338. In accordance with the scoring guideline, in order to ease the interpretation of the score, I added .5338 to each value in order to make the score range from 0 to 1. 0989. As a result, we had A = 1.0989, B= 0.918, C= 0.6556,

D= 0.3793, E= 0.151 and F= 0 (Matsumoto, Yoo, & Fontaine, 2008). All items were averaged. Higher scores indicated a higher perceived acceptability of expressing negative emotions. For the current sample, the Cronbach's alpha coefficients were .877.

Willingness to Forgive

Participants' willingness to forgive was measured with the Transgression Narrative Test of Forgiveness (TNTF, Berry, Worthington, Parrott, O'Connor & Wade, 2001). The TNTF includes five different transgression scenarios, in which participants are asked to imagine that they perceived transgressions made against them and to rate their intention to forgive in each case, according to a five-point Likert scale (1= definitely not forgive, 5= definitely forgive). Scenario number two and number five of the original test were not applicable for the current sample because, in Asian culture, babysitting and allowing a relative to temporarily move in are not common. Thus, in order for the two scenarios to be more culturally relevant, I replaced them with two other scenarios (Please refer to the Appendix A for the full scenarios). The score of the five scenarios were summed to become a total forgiveness score, ranging from 5 to 25. Higher scores indicate greater willingness to forgive. The TNTF has been shown to be reliable with Cronbach's alphas of .71 to .81, and a test-retest reliability of *r*= .69 (Berry et al., 2001). For the current study, the Cronbach's alpha coefficients were .504.

Causal Attribution

Participants' causal attribution for each of the five trangression scenarios described above were measured with the Perceived Responsibility 4-question scale, taking from Ng & Tong's study (2012). For each scenario, participants rated the following items on a 7-point scale: "To what extent was this person responsible for causing the incident?" (*responsibility*; scale ranged from 1 = *not responsible at all* to 7 =*very responsible*); "To what extent was this person

intentional in causing the incident?"(*intention*; 1 = *not intentional at all* to 7 =*very intentional*); "To what extent did this person have control over the incident?" (*control* ;1 = *had no control at all* to 7 = *had very strong control*); and "To what extent was this incident caused by situational factors no one could control?" (*situation-control*; 1 = *not due to situational factors at all* to 7 = *very much due to situational factors*). In this study, the score of the first three questions for each of the 5 scenarios were summed to create a total internal casual attribution, score which ranged from 15 to 105. The scores of the fourth question for each of the 5 scenarios were summed to create a total external causal attribution. Score ranged from 5 to 35. This is a measure of "state" causal attribution based on five specific hypothetical transgressions. For the current study, the Cronbach's alpha coefficients were .694.

Emotional Forgiveness

The eight-item Emotional Forgiveness Scale (EFS; Worthington, Hook, et al., 2007 as cited by Hook et al., 2012) measured participants' emotional forgiveness. The EFS followed the Perceived Responsibility scale for each scenario. Participants rated their agreement with statements like "I feel sympathy toward him or her", and "I no longer feel upset when I think of him or her" on a 5-point rating scale from 1 = *strongly disagree* to 5 = *strongly agree.* After recoding the reversed scored items, the scores of the EFS for all five scenarios were summed to create a Total Emotional Forgiveness score, of which the possible range was from 40 to 200. Higher scores on the Total Emotional Forgiveness score indicate greater emotional forgiveness. The EFS has shown good internal consistency, with Cronbach's alpha ranging from .69 to .83. Scores on the EFS have also shown evidence of construct validity; it is highly correlated with other measures of state forgiveness and trait forgiveness (Worthington, Hook, et al., 2007). For the current sample, the Cronbach's alpha coefficients for the EFS were .845.

Decisional Forgiveness

The participant's state decisional forgiveness was measured with the eight-item Decisional Forgiveness Scale (DFS; Worthington, Hook, et al., 2007). The DFS is placed after Emotional Forgiveness in each scenario. Participants rated their agreement with statements like "If I see him or her, I will act friendly," and "I will try to get back at him or her" on a 5-point rating scale from 1 = *strongly disagree* to 5 = *strongly agree.* After recoding the reversed scored items, the scores on the DFS of all 5 scenarios were summed to become the Total Decisional Forgiveness score, for which the possible range was from 40 to 200. Higher scores on the Total Decisional Forgiveness score indicate greater decisional forgiveness. The DFS has shown high internal consistency with Cronbach's alphas ranging from .82 to .86 (Worthington, Hook, et al., 2007). Scores on the DFS have also shown to be correlated with other measures of state forgiveness and trait forgivingness, (Worthington, Hook, et al., 2007). For the current sample, the Cronbach's alpha coefficients were .800.

Empathy

Participants' state of empathy was measured with the Batson Empathy Adjectives (BEA; Coke, Batson & Mc Davis, 1978; Toi & Batson, 1982 as cited by Hook, 2007). The BEA consists of 8 positive emotion adjectives which are sympathetic, empathic, concerned, moved, compassionate, softhearted, warm and tender. For each scenarios, participants rated the intensity of each emotion that they would feel in relation to the transgressor in each scenario on a 6-point Likert scale from 1= Not at all to 6= Extremely. All the scores of the BEA of five scenarios were summed to create a Total Positive Emotion score, ranging from 40 to 240. Higher scores on Total Positive Emotion indicate greater positive emotion and empathy toward the transgressors. The empathy measure has shown high internal consistency, with Cronbach's alphas ranging

from .79 to.95 (Coke et al., 1978; Toi & Batson, 1982). The BEA has also demonstrated evidence of construct validity, and has been found to be positively correlated with measures of dispositional empathy, perspective taking, and helping behavior (Batson, Bolen, Cross, & Neuringer-Benefiel, 1986; Eisenberg & Miller, 1987 as cited by Hook, 2007). For the current sample, the Cronbach's alpha coefficient was .936.

Procedures

A university-wide email was sent out to all university students and posters were also pasted around the campus to call for participants. As the university in total has around 500 students, and 173 students responded to participate, the participation rate was around 34%. Students signed up for 1 of 10 research sessions through an online link. On average, each session had 17 participants, all sitting in a large room with space between them to maintain privacy. In each session, the researcher handed out the Information Sheet to all participants and explained briefly about the study. The Information Sheet indicated that the completion of the questionnaires would indicate the participant's consent. The decision not to collect the participants' consent separately was made in order to ensure anonymity, and thus allow for more honest answers from the participants. Participants were given as much time as needed to complete the questionnaires. On average, it took from 1.5 hours to 2 hours for completion. During the session, the researcher and research assistant were available to answer any questions regarding the questionnaires for the participants. All of the questions asked regarded the meaning of the words or phrases on the questionnaires. After completing the questionnaire, individual participants handed the questionnaire to the research assistant and received the compensation.

Results

Hypothesis 1a

We did two set of analyses to test the hypothesis that holistic thinkers would be more forgiving of transgressions compared to analytic thinkers. Firstly, as both of thinking style and forgiveness are continuous variables, we tested the hypotheses through a Pearson's correlation. No significant correlation was found.

Secondly, we divided participants into four quartiles based on their scores on AHS. The first quartile represented the part of sample that was highest in analytic thinking (scores less than 116.25) while the last quartile represented the part of sample that was highest in holistic thinking (scores higher than 132.00). We then compared the means of forgiveness between the two groups using an independent sample t-test. We found no significant difference between the means, $t(83)=.204$. This indicates no difference between tendencies to forgive between holistic and analytic thinkers. Thus, this hypothesis was not supported.

Hypothesis 1b

I hypothesized that, of the four dimensions of thinking styles (Causality, Attitude toward Contradictions, Perception of Change and Locus of Attention), Causality would be most closely related to the tendency to forgive. We did two set of analyses to test the hypothesis. Firstly, the Pearson's correlation test showed a significant negative correlation, $r= -.161$, $p < .05$. Secondly, a stepwise multiple regression was conducted to determine which of the four dimensions were the most predictor of total forgiveness. At step 1 of the analysis Causality was entered into the regression equation and was related to total forgiveness $F(1,16) = 154.21$, $p=.028$). The multiple correlation coefficient was .17, indicating approximately 2.9% of the variance of total forgiveness could be accounted for by Causality. Attitude toward Contradictions ($t = 1.338$, p

= .183), Perception of Change (t= -.652, p= .515) and Locus of Attention (t= -.473, p=. 637) was not entered into the equation at step 2 of the analysis, indicating that they did not significantly add to the predictive value of causality alone. However, the relationship was in the opposite direction as predicted. We expected that higher score on Causality would be related to higher scores in total forgiveness. The result showed the opposite, β = -.170. Thus, the hypothesis was not supported.

Hypothesis 1c

I hypothesized that causal attribution would be related to forgiveness. We tested this hypothesis through a Pearson's correlation. Statistics showed that a significant negative correlation between forgiveness and internal attribution with r= -.356, p< .01. However, there was none significant correlation between external attribution and forgiveness.

Hypothesis 1d

I hypothesized that the relationship between thinking styles and forgiveness will be mediated by causal attribution. Because the main relationship was not supported by the data, this hypothesis about the mediator is not valid. However, we still looked at the relationship between causal attribution, forgiveness and holism. A significant correlation was found between internal attribution and forgiveness, r= -.346, p <.001, meaning that the more participants attributed the cause of the transgression to internal causes, the less likely the participants were to forgive. A correlation was also found between internal attribution and holism, r= .163, p < .005, meaning that the more the participants were holistic, the more likely they attributed the cause of the transgression to internal reasons.

Hypothesis 2a

I hypothesized that the relationship between thinking styles and forgiveness would be mediated by collectivism. As the relationship between thinking styles and forgiveness was not supported by the data, this hypothesis is not valid. However, we still look at the possible correlations between collectivism, thinking styles and forgiveness. No significant correlation was found.

Hypothesis 2b

I hypothesized that participants who were more collectivistic would score higher on decisional forgiveness than individualistic participants. We conducted two sets of analyses to test this hypothesis. Firstly, we did a Pearson's correlation's test, and found no significant correlation between collectivism and decisional forgiveness. Secondly, we divided participants into four quartiles based on their scores on the ICIAI. The first quartile represented the part of sample that was highest in individualism (scores lower than 3.08) while the last quartile represented the part of sample that was highest in collectivism (scores higher than 3.81). We then compared the means of decisional forgiveness between the two groups using an independent samples t-test. We found no significant differences between the means of decisional forgiveness of the two groups. This indicates no difference in decisional forgiveness between the group that scored highest in collectivism and the group that scored highest in individualism. Thus, this hypothesis was not supported.

Hypothesis 2c

I hypothesized that people would be more forgiving to members of one's in-group than members of one's out-group. To test this hypothesis, we computed two new variables which were forgiveness of in-group members and forgiveness of out-group members. The transgressors

of scenario number three and five were considered to be members of the in-group as they were a brother and a cousin, who are family members. The transgressors of scenarios number one and scenario number four were considered to be members of the out-group as they were a classmate that the participant occasionally sees and an old friend from high school. Thus, forgiveness scores of scenarios number three and five were averaged to create the new variable "forgiveness of in-group members." Forgiveness scores of scenarios number one and four were averaged to create the other new variable "forgiveness of out-group members." Having these two new variables, we conducted a paired-samples t-test to compare the means of the two groups. Statistic showed that the mean of forgiveness of in-group members (M=3.54) was higher than the mean of forgiveness of out-group members (M=2.33), meaning the current participants forgave members of their in-groups more than members of their out-groups. Thus, this hypothesis was supported.

Hypothesis 3

I hypothesized that the relationship between thinking styles and forgiveness will be mediated by self-construal identification. Again, because the correlation between holism and forgiveness was not supported by the data, the hypothesis about the mediator is not valid. However, we did examine at the relationship between self-construal, forgiveness and holism. A significant correlation was found between interdependent self-construal and holism, $r = .280$, $p < .01$. As hypothesized, if individuals identify themselves as more interdependent self-construal than independent self-construal, they would more likely to be holistic. However, there was not any significant correlation between self-construal and forgiveness.

Hypothesis 4

I hypothesized that the more empathetic a person was, the more likely they would forgive the transgressors. A Pearson's correlation's test showed a significant positive correlation

between empathy and forgiveness with $r = .441$, $p < .001$. Therefore, this hypothesis was supported.

Hypothesis 5

I hypothesized that the more a person thought that it was not acceptable to express negative emotions, the more likely s/he would report decisional forgiveness. A Pearson's correlation's test showed no significant correlation between perceived acceptability of expressing negative emotions and decisional forgiveness. Thus, this hypothesis was not supported.

As the final step in the analyses, we conducted a stepwise multiple regression to identify the model that best predicts forgiveness. At step 1 of the analysis, Internal Attribution, was entered into the regression equation and was related to total forgiveness F (1,160) = 24.179, $p < .01$. The multiple correlation coefficient was .362, indicating that approximately 13.1% of the variance of total forgiveness could be accounted for by Internal Attribution. Holism (t = -.688, $p > .05$), Interdependent Self-construal (t= -.607, p> .05), Independent Self-Construal (t= 1.090, p> .05), Collectivism (t= 1.331, p> .05), Perceived Acceptability of Expressing (t= .564, p> .05) and External Attribution (t= -1.490, p> .05) were not entered into the equation at step 2 of the analysis, indicating that they did not significantly add to the predictive value of internal attribution alone. Thus, internal attribution was found to be the best predictor of the willingness to forgive. Please refer to table 4 at the end of the paper for any correlational statistics.

Discussion

The current study sought to replicate the findings of a previous study which identified a relationship between holistic thinking and forgiveness (Bui & Flicker, 2013). As our previous research found a positive correlation between holism and the tendency to forgive but failed to show causal attribution as the mediator of the relationship, this study re-examined causal

attribution as a mediator. At the same time, the study also examined alternative explanation for the relationship including other potential mediators of the relationship regarding self-construal identification, collectivism, as well as other predictors of forgiveness including perceived acceptability of negative emotions and empathy. The following discussion will firstly explain the results of the each hypothesis.

Hypothesis 1a: Thinking Styles and Forgiveness

The findings of current sample failed to replicate the previous findings regarding the relationship between thinking styles and forgiveness. Inconsistent with our previous finding (Bui & Flicker, 2013), the primary hypothesis that holistic thinkers would be more likely to forgive than analytic thinkers was not supported by the data. Our current sample differs from our previous sample in significant ways, which may have contributed to the difference in results. Our previous study (Bui & Flicker, 2013) included participants from both Asian and Western cultures. Perhaps because the original sample included both Asians and Westerners, we had a greater range of holistic thinking and analytic thinking tendencies. However, in the current study sample, there is a lack of variability of the holism score.

In the current sample, the vast majority of the participants reported a holistic thinking style. Namely, based on the AHS scale, the midpoint of 96 could be used as a cutoff, separating the holistic and analytic thinking. Participants scoring above 96 show holistic thinking styles and participants scoring below 96 show more analytic thinking styles. However, in the current sample, the mean was 123.63, much higher than the scale middle point. Additionally, among 173 participants, there were only 3 participants had score lower than 96. These numbers indicates that more than 95% of the sample rated as holistic thinkers. This lack of variability in the analytic and

holistic variables likely reduced the ability to detect a correlation between forgiveness and thinking styles. This may be why the original finding was not replicated in this sample.

Hypothesis 1b: Causality and Forgiveness

Although thinking style was not found to be related to forgiveness, one of its subscales (causality) was showed to be correlated to forgiveness as hypothesized. However, inconsistent with the current hypothesis and with our previous finding (Bui & Flicker, 2013), causality was negatively related with forgiveness. It was hypothesized that the more participants considered a greater number of causes surrounding an event, the more likely they were to locate the cause of the transgression external to the transgressions, and thus more likely to forgive the transgressors. However, in the current study, the participants who scored higher in Causality showed lower tendencies to forgive.

This current finding might be explained by Lin (2009) study in which he compared Malaysian and American participants in term of causal attribution. In Lin's study, the participants first completed the Holism scale; then they read a scenario which presented both situational and dispositional attribution. Afterwards, the researchers measured the participants' attentions toward the presented attribution as well as their own tendency to attribute. Although he found that Malaysians were more holistic than Americans, the groups were not different in terms of situational causal attribution. In other words, the Malaysian holistic thinkers did not make more external attribution compared to the Americans. Lin (2009) explained that as the holistic Malaysian thinkers focused wider information related to the event, they paid more attention to both dispositional and situational information compared to the Americans. Lin's finding and explanation reminds us that considering numerous of causes does not mean making more external attribution. Instead, it means that holistic thinkers would consider more

information of the event, which according to Lin, is both internal and external information. In fact, our participants did make more internal attribution than external attribution. The mean of internal attribution was higher than the mean of external attribution. Because the current sample made more internal attribution for the transgression's causes, they might be less likely to forgive, as the result showed.

Hypothesis 1c: Causal Attribution and Forgiveness

The current data showed a significant relationship between internal attribution and forgiveness, but no significant relationship between external attribution and forgiveness. The finding of a negative correlation between internal attribution and forgiveness is consistent with existing literature (Ho & Fung, 2011; Fincham et al., 2002), which has shown that people who make more internal explanation would be less likely to forgive because they perceive the causes of the transgressions are mostly due to the actor's intention and personalities. When we think someone intentionally hurt us or be against us, it is difficult to forgive that person.

Unexpectedly, the current study did not find a positive relationship between external attribution and forgiveness probably because most hypothetical scenarios did not provide many external factors of the event. For example, scenario one only described the event that a friend copied the participant's paper, with no more explanation about external factors such as family issues and difficulties of the paper. Scenario number four only described a brother forgot to submit the job application without mentioning anything about his distress or his busywork. This lack of information regarding external factors might reduce the ability of the participants to make external attribution of the participants compared to internal attribution, and thus might be the reason for the current study not being able to detect the relationship between external attribution and forgiveness.

Hypothesis 1d: Causal Attribution as the Mediator between Thinking Styles and Forgiveness

As the relationship between thinking styles and forgiveness was not supported by the current data, it is not possible to confirm causal attribution as the mediator of the non-existent relationship. However, internal attribution was found to be negatively related to forgiveness, as explained above. Internal attribution was also found to be related with holistic thinking. Inconsistent with the existing literature (Choi, Koo & Choi J., 2007; Nisbett, Peng, Choi & Norenzayan, 2001), the current data demonstrated that the more holistic a person is, the more likely she or he would make internal attribution. According to previous studies, as holistic thinkers tend to focus on the whole context, they would be more likely to consider external factors of an event, and thus, make more external attribution.

In explanation, Choi et al (2003) found out that holistic thinkers (who were Korean participants in the study) were not able to discard information as easy as American and Asian American participants (who were considered to be more analytic thinkers). In the research, all the participants were presented a scenario and then asked to choose the reasons of the event from a list of possible reasons. Results showed that the Korean participants chose more reasons than American and Asian American participants. Because holistic thinkers look at the whole picture and the relation between an object and context, it would be difficult for them to discard any information that they perceive as possibly be related to the whole picture. Again, in our study, most of the scenarios did not provide many external factors of the event. Instead, most of them only presented internal reasons from the transgressors. The fact that most of the scenarios provided mostly internal attribution might explain why holistic thinkers made more internal attribution. It was because they could not discard the presented information of internal attribution.

Hypothesis 2a: Collectivism as an explanation for the relationship between thinking styles and forgiveness

The current study hypothesized that collectivism might be an alternative explanation for the relationship between holism and forgiveness as collectivism has been shown by existing literature to be related to holism and forgiveness (Nisbett & Miyamoto, 2005; Bailey & Dua, 1999; Kuo, 2013; Ho & Fung, 2011; Hook et al., 2012). However, we found neither a relation between collectivism and thinking styles nor between collectivism and forgiveness in the current sample.

In explanation, similar to the lack of variability on the analytic-holism scale, the current sample lacks of variability on the collectivism-individualism scale. The vast majority of the participants reported themselves to be collectivistic. Based on the Collectivism scale, score ranging from 0 to 6, 3 could be used as a cutoff, separating collectivism and individualism. Participants scoring above 3 would be more collectivistic, and participants scoring below 3 would be more individualistic. In the current sample, the mean was 3.44, higher than the scale middle point. Only 18 % of the participants scored lower than 3. These statistics indicate that more than 80% of the sample is collectivistic. This lack of variability in collectivism, added to the lack of variability of holistic thinking styles, might reduce the ability of the current sample to detect a true relationship between thinking styles and collectivism, if one does exist.

Hypothesis 2b: Collectivism and decisional forgiveness

It was hypothesized that collectivistic participants, who value social harmony and want to reduce any possible threats to social relationships as, would be more likely to endorse decisional forgiveness (Hook, Worthington & Utsey, 2009 as cited by Hook et al., 2012; Sandage & Wiens, 2001 as cited by Hook et al., 2012; Ho & Fung, 2011; Hook et al., 2012). However, inconsistent

with the hypothesis, there was no relation between collectivism and decisional forgiveness. Again, it might happen because the lack of variability of collectivism in the current sample, which reduced the ability to detect any differences between collectivists and individualists regarding decisional forgiveness.

Hypothesis 2c: Forgiveness to members of one's in-group

It was hypothesized that participants would be more likely to forgive members from in-groups than members from out-groups because they find themselves more similar to their in-group members, and thus having more empathy to them to forgive (Bono, 2005; Pan, 2008, Worthington et al., 2007). As expected, data showed a difference between the tendency to forgive members of one's in-group and members of one's out-group. Our participants tended to forgive more to members of their in-group who are their brothers and cousins compared to members of their out-group who are their classmates.

Hypothesis 3: Self-Construal as a Mediator between Thinking Styles and Forgiveness

The current study hypothesized that individuals with interdependent senses of selves would be more likely to be holistic and also more likely to forgive, and that, individuals with independent senses of selves would more likely to be analytic and less likely to forgive. Consistent with previous finding (Nisbett et al., 2001), data showed that holistic thinkers tend to have more interdependent sense of self compared to analytic thinkers who tend to have more independent senses of selves. Because that holistic thinkers focus on the whole context or the relationship between objects and the surrounding environment, they would also perceive themselves to be related with the external surrounding as well as others.

The current study was the first study which hypothesized that individuals with interdependent senses of selves who identify themselves closely with others might be more likely

to forgive as forgiving others seems to be like forgiving part of them. However, unexpectedly, there was no relation found between interdependent self-construal and forgiveness. One explanation for why the interdependent self-construal participants in our current study did not show higher level of forgiveness is because they could not relate themselves with the scenarios' transgressors in the questionnaires. As the scenarios was not real, and the transgressors were not anyone known to the participants, it might be difficult for them to identify themselves with non-exist people. Moreover, the scenarios include brother and cousin. As some participants may not have brother or close friend, they might have a harder time to relate themselves to the provided characters. These reasons might reduce the ability of the current study to detect the relationship between interdependent self-construal and forgiveness, had it existed.

Hypothesis 4: Empathy and Forgiveness

The current study also hypothesized that empathy can be a strong predictor of forgiveness. Because empathy can help victims to have compassionate feelings and behaviors to the transgressors (Malcolm, Warwar, & Greenberg, 2005; McCullough, Worthington, & Rachal, 1997 as cited by Merolla, Zhang, & Sun, 2013), empathy might be an explanation for a person to forgive. As hypothesized, data showed a high correlation was found between empathy and forgiveness, supporting the hypothesis. However, because I realized too late that the way we measured empathy overlapped considerably with the construct of forgiveness, I believe this method did not provide a valid test of whether empathy predicts of forgiveness.

Hypothesis 5: Individual judgment about the acceptability of expressing negative emotions as an explanation between Thinking Styles and Forgiveness

As transgressions often provoke negative emotions in the victims, the current study hypothesized that if the victims believed that it was less acceptable to express negative emotions,

they would be more likely to forgive. However, inconsistent with the hypothesis, the current study found no relation between individual judgments about the acceptability of expressing negative emotions and forgiveness.

In explanation, two negative emotions (contempt and disgust) which were used in this study were not applicable to our sample. During the research sessions, around one third of the participants raised an issue that they had never felt contempt or disgust to their parents, teachers or siblings. As a result, many of them chose the option "Not applicable" for these two emotions. Moreover, out of five situations listed in the measure of negative emotion expression, four of them are people who are close to the participants including parents, sibling, close friends and teachers. As most of our participants are collectivistic who value family and give high respect to the elder, it is possible that contempt and disgust are not applicable negative emotions for them towards their family members or the elder. The participants might also not have felt contempt or disgust during transgressions. This lack of applicability of contempt and disgust for our current sample may explain why we could not find a relation between the acceptability of expressing negative emotions and decisional forgiveness.

Strengths and Limitations

This sample is notable for its culturally and religiously diverse sample from Asian populations. While previous samples have only included East Asians and Westerners, this sample included Asians from other parts of Asia including South Asia and Southeast Asia. However, several limitations of the present study should also be noted.

The first limitation is about generalizability because of the sample. This study used a sample of convenience, which included university students from 17 to 27 years old. Because people who are older may have different ways of perceiving and forgiving a transgression

compared to young people, the results maynot generalize to older populations. In addition, as our entire sample is women, our findings cannot generalize to men. Moreover, although the current sample is diverse, including participants from 11 Asian countries, 40.5% were the Bangladeshi participants. Therefore, the results may have been heavily influenced by cultural characteristics of Bangladesh rather than Asian cultures in general. Especially, our sample was drawn from a very particular university which is the first liberal art university in Asia and which emphasizes on teaching young women from difficult economic background leadership skills and critical thinking. This specialty of the university might also reduce the generalizability of the findings.

The second limitation is about language and the level of understanding of the questionnaires. Because all of our surveys were in English and all of our participants' first languages are not English, participants may have had difficulty fully understanding the questionnaires. Although the researcher and a researcher's assistant were present in the lab at all research sessions, and participants were encouraged to ask questions about wordings, participants may not have raised all their confusions about the surveys. They might have guessed inaccurately the meanings of the questions, and thus, their responses might not be valid.

The third limitation is regarding our measures. Most of our measures have not been used for Asian population. When testing the reliability for current sample, the two main measures of thinking styles and forgiveness were shown to be the least reliable to the current sample because their Cronbach's alphas were the lowest. This limitation might be an explanation why, the study could not find a relationship between thinking styles and forgiveness. In addition, the measure of empathy in the current study was not a good choice. Our hypothesis was that empathy would be a mediator between thinking styles and forgiveness. However, by putting Batson's measure after each transgression's scenarios and asking the participants to report their emotions at that moment,

the way we measured empathy was too similar to the concept of forgiveness. As a result, we unintentionally measured a part of forgiveness as well as empathy. With this limitation, this study was not able to examine the role of trait empathy in relation with forgiveness.

The fourth limitation is related to the lack of variability in the sample. As mentioned above, this sample lacked variability regarding thinking styles and collectivism of the participants. Counter to our expectation that participants from 11 different countries would show differences in thinking styles and collectivism, most of our participants demonstrated the tendency of holistic thinking styles and collectivism. The lack of analytic thinkers and individualistic participants limited the ability of the current study to detect any differences that may have existed between holistic thinkers and analytic thinkers regarding their willingness to forgive.

The last limitation is about the critique of cultural divisions between countries or nations. We have the tendency to perceive Western population as more individualistic and Asian population as more collectivistic. In fact, data showed that there were not big differences in term of collectivism and individualism between Western and Asian population (Fiske, 2002). Thus, using collectivism and individualism as a marker to distinguish between cultures and countries is problematic. As the current study also has the frame-work based on the classification of cultures regarding collectivism and individualism, holistic thinking and analytic thinking, it is worthy to notice the current critique regarding this tendency of classification.

Directions for Future Research

In the light of the noted limitations, replication of this study with a more balanced gender representation would be very useful. If future research can use measures that are translated to the participants' first languages, it would eliminate possible language misunderstandings or

difficulties. Furthermore, as empathy is thought to be an important factor in relation to forgiveness and the current study was not able to examine it, it would be useful if future research re-tests the relationship by using a measure of trait empathy. It will also be worthwhile to do a cross-sectional comparison between the current's study data and data from other Western sample (which would likely to have higher levels of analytic thinking) so that we get a more variable sample to allow us to better investigate the current hypotheses.

As none of existing literature suggested any link between collectivism and emotional forgiveness to the out-group members, our finding is striking; however it is difficult to fully understand this finding. We also cannot rule out the possibility that it happened by chance. However, it would be worthwhile to replicate the study about the relationship between collectivism and decisional-emotional forgiveness in term of in-group and out-group members to seek better understanding, and to understand why it may occur. The better we can understand about predictors of forgiveness, the more we can contribute towards developing programs to resolve conflicts and improve personal well-being.

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Table 1

Percentages of participants' Nationalities, Religions, Family Economic Background, Private School History and Academic Degrees of Parents

	Percentage
Nationality	
Indonesian	0.6%
Bhutanese	6.9%
Indian	4.0%
Myanmar	1.2%
Pakistani	4.0%
Sri Lankan	4.0%
Vietnamese	11%
Afghanistan	11.6%
Nepalese	15.6%
Bangladeshi	40.5%
Cambodian.	0.6%
Religion	
Islam	51.4%
Christianity	7.5%
Hinduism	18.5%
Buddhism	11.0%
Non-religion	8.1%
Other kinds of beliefs	3.5%
Self-reported family economic background	
Lower class	7.5 %
Middle class	91.3%
Upper class	1.2%
Attended private school	
Yes	63%
No	37%
Degree obtained by fathers	
Below High School	42.3%
High School	16.7%
Diploma	4.2%
Bachelor	17.3%
Master	17.9%
PhD	1.8%
Degree obtained by mothers	
Below High School	61%
High School	14%
Diploma	5.2%
Bachelor	14%
Master	5.8%
PhD	0%

Table 2

Mean (M) and Standard Deviation of Demographic Characteristics

Demographic (*n* = 173)	Mean (M)	Standard Deviation (SD)
Age in years	21.18	1.814
Years staying at the university	2.640	1.3627
Years studying abroad	2.413	3.3465
Years of school grade completed by fathers	11.57	5.503
Years of school grade completed by mothers	9.28	5.602

Table 3

Means, Standard Deviations and Score Ranges of all Measured Variables

Measures	Mean (M)	Standard Deviation (SD)	Score Range
AHS Total	123.63	12.47	24-168
AHS Causality	32.51	4.90	6-42
AHS Attitude toward Contradictions	31.30	5.37	6-42
AHS Perception of Change	30.61	5.51	6-42
AHS Locus of Attention	29.21	6.19	6-42
ICIAI Average	3.44	0.52	0-6
SCS Interdependent	64.20	8.71	12-84
SCS Independent	55.32	8.44	12-84
DRAI	.42	0.15	0-1
Forgiveness Total	13.63	3.08	5-25
Internal Attribution	77.47	1.18	15-105
External Attribution	17.70	5.16	5-35
Total Emotional Forgiveness	108.98	16.84	40-200
Total Decisional Forgiveness	137.99	16.23	40-200
Forgiveness of in-group members	3.54	0.84	1-5
Forgiveness of out-group members	2.33	0.83	1-5
BEA	112.21	29.07	40-240

Table 4

Correlation Matrix of all Measured Variables

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Causality															
2	Contradiction	.091														
3	Change	.103	.090													
4	Attention	.098	.196*	-.014												
5	Holistic Thinking	.526**	.605**	.514**	.613**											
6	Self Construal Interdependent	.234**	.239**	-.053	.214**	.280**										
7	Self Construal Independent	-.001	.022	-.007	.110	.065	-.033									
8	Collectivism	.184*	.146	-.109	.056	.114	.322**	.037								
9	Expressiveness Level	.006	-.125	-.071	-.044	-.106	-.128	.224**	-.014							
10	Decisional Forgiveness	-.199**	.168*	.134	.051	.076	.192*	.028	.038	-.074						
11	Emotional Forgiveness	-.198**	.079	-.076	.008	-.073	.099	.093	.242**	.075	.358**					
12	External Attribution	.077	-.001	-.060	-.026	.000	.139	-.060	.073	-.119	-.151*	.068				
13	Internal Attribution	.135	.090	.142	.039	.182*	.129	.084	-.140	-.028	-.112	-.355**	-.016			
14	Total Forgiveness	-.161*	.083	-.067	-.049	-.085	-.076	.042	.142	.030	.314**	.540**	.056	-.356**		
15	Forgiveness of In-group	-.065	.146	-.017	.036	.044	-.044	.024	.103	-.043	.151*	.280**	-.013	-.242**	.709**	
16	Forgiveness of Out-group	-.163*	.028	-.052	-.065	-.110	.007	.046	.113	.085	.360**	.485**	.049	-.265**	.790**	.248**

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Appendix A: Full Modified Version of the Transgression Narrative Test of Forgiveness

1. Someone you occasionally see in a class has a paper due at the end of the week. You have already completed the paper for the class and this person says she is under a lot of time pressure and asks you to lend her your paper for some ideas. You agree, and this person simply retypes the paper and hands it in. The professor recognizes the paper, calls both of you to her office, scolds you, and says you are lucky she doesn't put you both on academic probation. Imagine yourself in such a situation and mark how likely you are to forgive the person who borrowed your paper.
2. Your close friend just found out that her father has been cheating on her mother with another woman. To help your friend feel better, you decided to invite her over to your house to cook together. Your father had just lost his job so he was at home that day. Therefore, your friend met your father. You and your friend had a great time cooking. However, the following day, you came to class and overheard that close friend telling other classmates that committing adultery like her father was still better than a husband depending on his wife's money like your father. Imagine yourself in such a situation and mark how likely you are to forgive your close friend.
3. Your brother offers to drop off a job application for you at the post office by the deadline for submission. A week later, you get a letter from the potential employer saying that your application could not be considered because it was postmarked after the deadline and they had a very strict policy about this. Your brother said that he met an old friend, went to lunch, and lost track of time. When he remembered the package, it was close to closing time at the post office and he would have to have rushed frantically to get there; he decided that the deadlines usually aren't that strictly enforced so he waited until the next morning to deliver the package. Imagine yourself in such a situation and mark how likely you are to forgive your brother not delivering the application on time.
4. You just started a new job and it turns out that a classmate from high school works there too. You think this is great, now you don't feel like such a stranger. Even though the classmate wasn't part of your crowd, there's at least a face you recognize. You two hit it off right away and talk about old times. At few weeks later, you are having lunch in the cafeteria and you overhear several of your coworkers, who do not realize you are nearby, talking about you and laughing; one even sounds snide and hostile toward you. You discover that your old classmate has told them about something you did back in school that you are deeply ashamed of and did not want anyone to know about. Imagine yourself in such a situation and mark how likely you are to forgive your old classmate for telling others your secret.
5. You and your cousin are in the same class. Your parents and her parents always compare you two regarding academic achievements. Most of the time, your cousin does a little better than you in the class. Although you feel annoyed that your parents do not appreciate your hard work, you have never been jealous of your cousin's high grades because you know that she also studied hard. Thus, your relationship has been good. One day, you got a higher mark than your cousin in a final Math exam. You were really happy and showed your grade to her. But, your cousin was not happy for you. She didn't talk to you for a week. She even told her mother (who told your mother) that you cheated on the Math Final. You were really angry. The following day, your cousin came to apologize. She explained that she feels under a lot of stress due to her parents' pressure on her to study. Imagine yourself in such situation.