A Meta-Analysis of Relationship Quality and Transgression Severity as Predictors of

Intrapersonal and Interpersonal Forgiveness

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ABSTRACT

Forgiveness is a nebulous construct. There are many ways to define forgiveness, and as many ways to measure it. The two predominant ways to measure forgiveness are with relationship-focused measures (Interpersonal) and self-focused measures (Intrapersonal). With inconsistencies in predictor outcomes of forgiveness reported in forgiveness literature, this meta-analysis aimed to investigate whether the type of forgiveness measure used impacted upon these inconsistencies. To explore this issue, the current study meta-analysed results from 96 independent studies, exploring the correlations between Intrapersonal and Interpersonal forgiveness measures with two established predictors of forgiveness: Relationship Quality and Transgression Severity, to determine whether these predictor outcomes differed based on the type of measure used. The study hypothesised that Interpersonal measures would exhibit larger correlations between forgiveness and Relationship Quality and smaller correlations with Transgressions Severity, in comparison to Intrapersonal measures. Additionally, key study characteristics including the study design, transgression methodology and predictor measurement, were explored. Results demonstrated that contrary to expectations, Intrapersonal and Interpersonal measures reported similar effects on both predictors; with medium, positive correlations for Relationship Quality ($r = .42$, $r = .38$, respectively) and small negative correlations for Transgression Severity ($r = -.26$, $r = -.23$, respectively). These findings suggest that Intrapersonal and Interpersonal measures are consistently measuring forgiveness. However, additional exploratory analyses run on common Intrapersonal and Interpersonal measures showed discrepancy in predictor outcomes among the measure types. Thus, future research should investigate additional forgiveness predictors such as intent and apology, to shed more understandings into this matter.

DECLARATION

This thesis contains no material which has been accepted for the award of any other degree of diploma in any University, and, to the best of my knowledge, this thesis contains no material previously published except where due reference is made. I give permission for the digital version of this thesis to be made available on the web, via the University of Adelaide's digital thesis repository, the Library Search and through web search engines, unless permission has been granted by the School to restrict access for a period of time.

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CHAPTER 1

Introduction

1.1 Forgiveness Research

The last 30 years have witnessed a growth of scholarship and support on the topic of forgiveness (for a review, see Fehr, Gelfand & Nag, 2010). Currently, there are over 7,000 peer-reviewed forgiveness articles as cited in the Scopus database (verified 03.09.18). Research has shown that forgiveness is valuable for human health and well-being, with evidence demonstrating that when offered, forgiveness can serve as a psychological buffer; protecting against health-eroding processes that can arise from conflict (Fehr et al., 2010; Tabak & McCullough, 2011; Worthington, Witvliet, Pietrini & Miller, 2007). Despite this progress, forgiveness remains a nebulous construct. While there seems to be a general consensus among researchers that forgiveness at least includes a prosocial change towards the transgressor (McCullough, Thoresen, & Pargament, 2000); forgiveness is nevertheless difficult to define. There are numerous definitions of forgiveness, and consequently, just as many ways of measuring it. This review will argue that this could be problematic, by demonstrating that how forgiveness is measured could affect the conclusions that are drawn about this large body of work.

1.2 Defining Interpersonal Forgiveness: forgiveness for the sake of the relationship

Forgiveness is often an interpersonal process (between one offender and one victim (Fehr et al., 2010)), although it is possible for there to be multiple offenders and forgivers, as in the case with group-level forgiveness. When exploring forgiveness between two people, it has often been conceptualized as a response that focuses on the relationship (Strelan, McKee, Calic, Cook, &

Shaw, 2013). The relationship has always influenced decisions surrounding forgiveness, as highlighted through interdependence (Kelley & Thibaut, 1978), investment (Finkel, Rusbult, Kumashiro, & Hannon, 2002) and evolutionary (McCullough, 2008) theories.

1.2.1 Key concepts of Interpersonal forgiveness: Empathy and Altruism

Batson's (1990) theory on the link between altruism and empathy was employed to conceptualise Interpersonal forgiveness. Empathy can be defined as an emotion that is congruent with the emotion experienced by another person, and encompasses positive connotations such as sympathy, tenderness and compassion (Batson, 1990; McCullough, Rachal, & Worthington, 1997). When an individual feels empathy towards another person, this activates the human capacity for altruism, which motivates a desire to help that person (Batson, 1990). Applying this reasoning to forgiveness; empathy for an offending partner can develop, which can in turn elicit the capacity to care for the needs of that person (McCullough et al., 1997). This empathy-elicited caring may emerge as a result of three foci: (a) empathy may influence the victim to feel compassion for the offender, who may be feeling guilt, distress or isolation after committing the transgression, which has in turn caused an estranged relationship; (b) empathy may resonate to caring for the offender because the offender feels lonely and isolated as a result of their estranged relationship; and (c) empathy may simply influence the victim to want to restore the breached relationship (McCullough et al., 1998; McCullough et al., 1997) Thus, a desire to help an offender based on empathy-elicited caring can be reflected in a victim's willingness to forgive the offender (McCullough et al., 1997).

1.2.2 Defining Interpersonal forgiveness

Based on the idea that forgiveness is facilitated by empathy-eliciting motivational changes, McCullough and colleagues (1997, pp. 321-322) outlined their definition of forgiveness as a "set of motivational changes whereby one becomes (a) decreasingly motivated to retaliate against an offending relationship partner, (b) decreasingly motivated to maintain estrangement from the offender, and (c) increasingly motivated by conciliation and goodwill for the offender". Thus, when a person is transgressed by another, their natural protective tendency to fight or flee from the offender subsequently involves motivations to either get even and bring harm to the offender or avoid the transgressor altogether. Forgiveness occurs when a motivational transformation takes place, whereby the victim no longer seeks revenge or avoids the transgressor, and instead engages in conciliatory behaviours (McCullough et al., 1998; McCullough et al., 1997).

1.2.3 Exploring Interpersonal measures of forgiveness

Interpersonal forgiveness has influenced the development of forgiveness measures that capture these positive (reconciliation and goodwill) and negative (revenge and avoidance) motivations. Common Interpersonal measures applied in forgiveness literature include: (a) the Transgression Related Interpersonal Motivations Inventory (TRIM; McCullough et al., 1998), (b) the Marital Offense Forgiveness Scale (MOFS; Paleari, Regalia, & Fincham, 2009) and (c) the Relationship Forgiveness Scale (RFS; Fincham, Beach, & Davila, 2004). Examples of statements measuring negative vengeful motivations include "I'll make him or her pay" (TRIM; McCullough et al., 1998, p.1603), and "I thought about how I could get even" (RFS; Fincham et al., 2004, p.74); while negative avoidance statements include "I'd keep as much distance between us as possible" (TRIM; McCullough et al., 1998, p.1603). In contrast, examples of positive motivational

statements include "although he/she hurt me, I definitely put what happened aside so that we could resume our relationship" (MOFS; Paleari et al., 2009, p.196) and "Despite what he/she did, I want us to have a positive relationship again" (TRIM; McCullough, Fincham & Tsang, 2003, p.544). These examples illustrate that Interpersonal forgiveness measures forgiveness as reconciliation. Hence, Interpersonal forgiveness is considered a relationship-oriented measure, where forgiveness serves to restore the relationship.

1.3 Defining Intrapersonal forgiveness: forgiveness for the sake of the self

Relationships, while important influences of forgiveness, are not the sole reason why people choose to forgive. Indeed, self-report surveys have shown that people nominate self-healing as one of the leading reasons for forgiving (Strelan et al., 2013). Thus, forgiveness has additionally been conceptualized as an internalized process (Riek & Mania, 2012). An internalized process is an experience that occurs within the self and is not necessarily communicated to an offender (Strelan et al., 2013). Support for Intrapersonal forgiveness has been demonstrated in decision making research, as evidence suggests that emotions play a pivotal role in the decision-making process (Lichtenfeld, Buechner, Maier, & Fernández-Capo, 2015). Thus, forgiveness has been further conceptualized as a process that occurs to heal the self.

1.3.1 Key concepts: emotional and decisional forgiveness

Intrapersonal forgiveness was first conceptualised via two experiences of individual forgiveness: emotional and decisional forgiveness (Worthington, Sharp, Lerner, & Sharp, 2006; Worthington et al., 2007) Emotional forgiveness encompasses internalized processes such as removing negative emotions and replacing these with positive feelings toward a transgressor

(Worthington et al., 2006). Although self-oriented, this form of forgiveness can be influenced by non-self-oriented emotions such as gratitude, humility and hope (Worthington et al., 2006). Conversely, decisional forgiveness is rooted in the ethical framework that mandates forgiveness; and takes account of the behavioural intention that the victim exhibits toward the offender (Worthington et al., 2006).

1.3.2 Defining Intrapersonal forgiveness

As grounded by emotional and decisional forgiveness, Intrapersonal forgiveness can be defined as the removal of negative affect and emotion, and emergence of positive affect and emotion towards a transgressor (Riek & Mania, 2012; Worthington & Wade, 1999). Intrapersonal forgiveness is primarily used as a self-coping mechanism. Therefore, victim's do not typically engage in retaliatory or avoidance behaviours because the offender's welfare is not considered (Strelan et al., 2013). Moreover, it is quite possible for forgiveness to occur without the victim re-establishing an active relationship with the offender, or even making it known to the offender that they have been forgiven (Riek & Mania, 2012). Thus, when victims use forgiveness primarily as an internalized coping mechanism in response to a transgression, forgiveness serves to benefit the self.

1.3.3 Exploring Intrapersonal measures of forgiveness

Intrapersonal forgiveness has similarly influenced researchers to develop forgiveness scales; however, unlike Interpersonal measures, Intrapersonal measures are oriented towards measuring positive and negative internal feelings rather than positive and negative reconciliatory motivations. Examples of common Intrapersonal measures of forgiveness include: the Enright

Forgiveness Inventory (EFI; Enright & Rique, 2004), the Emotional Forgiveness Scale (EFS; Worthington et al., 2007), the Decisional Forgiveness Scale (DFS; Worthington et al., 2007) and the Rye Forgiveness Scale (RFS; Rye et al., 2001). Statements measuring removal of negative emotions include "I no longer feel upset when I think of him or her" (EFS; Worthington et al., 2015, p. 486) and "I have been able to let go of my anger toward the person who wronged me" (RFS; Rye et al., 2001, p.274). Statements measuring positive emotions include "I think that many of the emotional wounds related to this person's wrongful actions have healed" (RFS; Rye et al., 2001, p.274) and "I feel love toward him or her" (EFS; Worthington et al., 2015, p.486). These examples further demonstrate that Intrapersonal forgiveness is centred around the victim's internal states, where the purpose of forgiving is to alleviate negative emotions and replace these with positive emotions.

1.4 Variation in the types of forgiveness measures used

A review conducted by Worthington et al. (2015) revealed that typing 'transgression related interpersonal' (i.e. the TRIM) into PsycINFO yielded 148 results. This was more than twice as many as the next most used measure being the EFI. This suggests that the predominant measures used in forgiveness research are Interpersonal measures followed by Intrapersonal measures.

Alternative ways to measure forgiveness have been developed based on different concepts of what it means to forgive. One method has been to measure forgiveness behaviourally by implementing moral dilemmas, for instance the Prisoner's Dilemma Game (Wade, 1989). In this way, forgiveness has been defined in behavioural terms, by observing an individual's cooperative responses to an opponent's initial competitive move (Wade, 1989). Another method has been to include single scales that provide general, close-ended statements to determine whether the

offender has been forgiven. These various types of measures can become problematic when reviewing the outcomes reported in forgiveness literature, as discussed in the following sections.

1.5 Predictors of forgiveness: Relationship Quality and Transgression Severity

1.5.1 Relationship Quality predicting forgiveness

Past literature has demonstrated a well-founded association between Relationship Quality and forgiveness (for review, see Fehr et al., 2010). Relationship Quality describes the perceived closeness, satisfaction and value experienced between individuals within an interpersonal relationship. Literature predominantly reports Relationship Quality as positively associated with forgiveness (see Finkel et al., 2002; Karremans & Van Lange, 2004; McCullough et al., 1998; Tsang, McCullough, & Fincham, 2006). Namely, victims who feel closer and more satisfied in their interpersonal relationship are more likely to forgive their offender. This finding can be understood via the concept of *embeddedne*ss. Embeddedness describes how an individual that holds strong ties to a relationship can become 'stuck' within that relationship when transgressed by their offender, because dissolution would entail significant sacrifice to the victim (Fehr et al., 2010). For example, relationships between family members or spouses would entail significant sacrifice if the relationship were to end. Therefore, embedded and important relationships are more likely to see a victim forgive their offender.

1.5.2 Transgression Severity predicting forgiveness

Transgression Severity refers to the amount of negative affect that a victim experiences in response to a relational transgression (Vallade & Myers, 2014). Past literature predominantly reports a negative relationship between Transgression Severity and forgiveness; with more severe

transgressions reporting less forgiveness by a victim (see Fincham, Jackson, & Beach, 2005; Karremans & Van Lange, 2005; Riek, 2010). This association can be understood from a cognitive perspective; such that severity facilitates negative impressions of the offender, who becomes associated with the negative event and is thus judged as undeserving of forgiveness (McCullough et al., 2003).

1.6 Exploring discrepancy with Relationship Quality and Transgression Severity

Albeit past research predominantly reporting positive associations between Relationship Quality and forgiveness, and negative associations between Transgression Severity and forgiveness; reviewing the literature shows that there is discrepancy in these patterns of results (for review, see Riek & Mania, 2012). For example, Relationship Quality and forgiveness have been negatively associated (see Dillow, Malachowski, Brann, & Weber, 2011; Sheldon, Gilchrist-Petty, & Lessley, 2014; Strelan et al., 2013). Moreover, Transgression Severity and forgiveness have been reported as positively related, with severe transgressions (threat and physical harm) emerging as one of the more forgivable offenses (Bachman & Guerrero, 2006). One plausible explanation for these discrepancies may result from the application of different types of instruments used to measure forgiveness. This concern will be discussed further in the following sections.

1.6.1 Reconciliation contrasted with forgiveness

As addressed earlier, literature predominantly reports forgiveness with Interpersonal measures, which are based on relationship restoration and seem to measure forgiveness more as reconciliation. However, reconciliation and forgiveness are distinct processes that should not be used interchangeably. Reconciliation can be defined as the positive emergence of a relationship

after a transgression (Riek & Mania, 2012). Although forgiveness contains relationship-restorative potential, forgiveness does not necessarily entail reconciliation, as demonstrated via Intrapersonal forgiveness (Fincham, 2000). Therefore, when studies use forgiveness measures that are based on reconciliation, it is difficult to know whether the outcome is reflecting human behaviour, or is influenced by the measure used.

1.6.2 Exploring discrepancy with Relationship Quality

Given the arguments presented thus far, it would seem reasonable to conclude that Relationship Quality would show stronger responses on forgiveness for Interpersonal measures in comparison to Intrapersonal measures. A measure based on reconciliation (Interpersonal) that places the victim to think about the importance of the relationship, may influence the victim to report on Relationship Quality as having a greater impact on the forgiveness process than was warranted by the situation. Moreover, a measure based on self-healing (Intrapersonal) that does not position the victim to think about the offender, or the importance of the relationship with the offender, may be less likely to position the victim to report that Relationship Quality influenced the forgiveness process. Considering these arguments; the first pair of hypotheses are proposed:

H1: Measures of Relationship Quality will be more strongly (and positively) associated with measures of forgiveness that lean towards measuring forgiveness as relationship restoration.

H2: There will be weaker (but still positive) relations between measures of Relationship Quality and internalized measures of forgiveness.

1.6.3 Exploring discrepancy with Transgression Severity

The severity of the transgression is likely to affect a victim's forgiveness whether they focus on forgiveness for themselves, or for their relationship. However, because Intrapersonal forgiveness orients towards measuring the emotional status of the victim, thus does not factor in a motivation to restore a relationship; victim's would be expected to report on Transgression Severity truthfully. The severity of the transgression remaining intact may influence lower forgiveness scores being reported; as greater harm from conflicts can facilitate greater negative impressions of the offender, thus a lower perceived deservingness of forgiveness (McCullough et al., 2003). Contrastingly, to occasion a simpler forgiveness process that serves to preserve the relationship, Interpersonal measures may influence the victim to reduce the severity of the offence. This may produce more forgiveness reported on Interpersonal measures because the transgression is perceived as less severe, making it easier to forgive an offender. Based on this reasoning, the final two hypotheses are proposed:

H3: There will be a weaker (and negative) association between measures of Transgression Severity and any measure of forgiveness that tends to be relationship-oriented.

H4: There will be stronger (but still negative) associations between a measure of Transgression Severity and an internalized measure of forgiveness.

1.7 The Current study

Forgiveness research has an important objective; to provide educational findings to the community about when and why people forgive. Therefore, it is important for knowledge sake at the very least, to determine whether the types of forgiveness measures used affect how or when forgiveness is predicted. The basis of the current study is to address this issue via a quantitative

meta-analytic synthesis of the forgiveness literature. Meta-analytic research can serve as an important tool for empirical integration of research as it allows for clearer comparison of theories and approaches of a given topic (Fehr et al., 2010). Only through a systematic empirical investigation of the forgiveness literature can the types of forgiveness measures be explored, to determine whether the type of measure used affects how or when forgiveness is predicted.

This review identified five published meta-analyses within the forgiveness literature. Two focused on forgiveness intervention and promotion of wellbeing (Aalgaard, Bolen, & Nugent, 2016; Akhtar & Barlow, 2016); one addressed the link between self-control and forgiveness (Burnette et al., 2014) and two investigated the conditions under which forgiveness is granted (Fehr et al., 2010; Riek & Mania, 2012). These analyses did not however explore forgiveness measures themselves or look for biases and differences in outcomes as based on the type of measure used. No meta-analysis to date has investigated whether the instruments used to measure forgiveness influence the variation in predictor outcomes. Thus, the current meta-analysis represents the first empirical review to address this issue.

1.8 Moderators: design, reporting of predictors and transgression methodology

It is important to consider how sample and study characteristics might further impact upon the results; a consideration that can be met by utilising a meta-analysis. This meta-analysis is the first of its kind, thus will take an exploratory approach to understand how sample and study characteristics moderate the findings. Therefore, specific hypotheses will not be formulated for the moderator variables. This meta-analysis will explore the moderating effects of three study characteristics: methodology (recall vs hypothetical transgression); study design (experimental vs

non-experimental); and how the predictors were reported (subjective or objective/manipulated). The following sections will explain the decisions to include these variables as moderators.

1.8.1 Transgression methodology: recall vs hypothetical

Forgiveness research consists of transgressions that are predominantly classified as recall scenarios or hypothetical scenarios. Recall scenarios instruct participants to report on forgiveness based on events that actually occurred to them, either from a past event or a recent transgression that was created in a laboratory context (Fehr et al., 2010). Hypothetical scenarios are fictitious scenarios presented to participants, who are instructed to imagine and report on how they would react in that situation. Recall scenarios have the advantage of realism however fall short in their ability to control for extraneous variables (such as the severity of the transgression or scenario reported by participants); while hypothetical scenarios face the reverse dilemma (Fehr et al., 2010). As such, the current study will examine the influence of recall versus hypothetical scenarios on forgiveness to determine whether they impact the results differently.

1.8.2 Study design: non-experimental vs experimental

The predominant research designs used in forgiveness literature are non-experimental designs. Non-experimental designs are often self-reported responses to questionnaires regarding a transgression, while experiments often manipulate a variable of interest in relation to forgiveness. Non-experimental designs like recall scenarios, are more applicable to the real world, while experimental designs create artificial settings that can lack realism. Therefore, it is possible that the study design impacts upon results.

1.8.3 Predictor measurement: subjective vs objective/manipulated

How predictors are measured refers to whether the participant reports on predictor outcomes (subjective), or whether an independent rater judges the severity of the offence (objective), as well as whether the researcher manipulates Relationship Quality (manipulated). The level of investment in the relationship could potentially result in inflated or underrated reports on severity, while an objective rater should provide an impartial judgement. Moreover, manipulating Relationship Quality using an experimental design may provide different results in comparison to self-report ratings on Relationship Quality measures. Therefore, the method of predictor measurement may further influence differences in outcomes between studies.

CHAPTER 2

Method

2.1 Literature search and inclusion criteria

A comprehensive search of the literature published prior to April 2018 was performed using the PsycINFO, PubMed and Scopus databases under the guidance of an expert research librarian. Search term grids were developed for each database to tailor their specific indexing terms (see Appendix A and B for detailed search strategies and search terms used). To maximise the coverage of articles, limits were not set on publication dates of articles, and search terms were kept broad, for example "forg*v*" (to cover variants such as forgive, forgiveness, forgave and forgiving).

The following criteria determined whether a study was eligible for inclusion in this meta-analysis: (1) the focus of this meta-analysis was on interpersonal forgiveness (forgiveness between one victim and one offender), thus group, self and third-party forgiveness was excluded; (2) forgiveness was reported and measured from the victim's perspective; (3) the study employed a state measure of forgiveness (for example the TRIM; McCullough et al., 1998) (4) the study contained at least one of the key correlates of forgiveness (Relationship Quality and/or Transgression Severity); (5) quantitative data was presented in a way so that a bivariate relationship (e.g. *r, t* values or group means) could be computed between the two measures; (6) the study was published in a peer-reviewed journal ('gray' literature excluded) in English; and (7) the study was original research data with sample size $N > 1$ (excluding reviews and case studies).

2.2 Study Eligibility

The literature search identified 4,320 articles, 2,332 which were duplicates. The titles and abstracts of the remaining 1,988 articles were reviewed against the aforementioned

inclusion/exclusion criteria, after which full-text versions of 333 studies were retrieved for detailed screening. The inclusion criteria was reapplied, which reduced the final number of eligible studies to 103 (see figure 1 for a summary of the selection process). Most studies were excluded at this stage due to lack of data reported in a manner that enabled calculation of an effect size (n =38) or did not include one of the relevant predictors of forgiveness (n = 83).

A requirement of meta-analyses is for participants to be independent of those used in other studies, as samples can only contribute to one calculation of a mean effect size (Rosenthal, 1995). Treating non-independent studies as independent can create test errors and distort the magnitude of the effect (Lipsey & Wilson, 2001; Rosenthal, 1995). One solution is to combine non-independent studies and treat them as one single independent study (Rosenthal, 1995). Thus, independence was examined for each study and three samples were identified as being followed longitudinally, with outcomes reported in five (Fincham, Paleari, & Regalia, 2002; Paleari, Regalia, & Fincham, 2005, 2009, 2010, 2011), three (Bonach, 2009; Bonach & Sales, 2002; Bonach, Sales, & Koeske, 2005) and two (Davidson, Lozano, Cole, & Gervais, 2013, 2015) separate papers. The data were collated and treated as three independent studies respectively. This further reduced the final number of studies to 96 (refer to Appendix C for a summary of studies).

Identification

Records identified through database searching

(n = 4,320)

Duplicate records removed
(n = 2,332)

Studies excluded
(n = 1,655)

Exclusions based on: (1) not relevant to forgiveness (e.g. war, religion, politics); (2) wrong predictors of forgiveness (e.g. apology) (3) not measuring forgiveness (e.g. reflections, essays, interventions) and (4) non-English texts).

Screening

Titles and abstracts screened for eligibility
(n = 1,988)

Eligibility

Full text articles assessed for eligibility
(n = 333)

Full text articles excluded, with reasons
(n =230)
- No relevant predictor (n = 83)
- Statistics not suitable to calculate an effect size (n = 38)
- Not interpersonal forgiveness (n = 25)
- Qualitative research (n = 26)
- Trait measure of forgiveness (n = 36)
- Offender perspective (n = 15)
- Forgiveness interventions (n = 7)

Studies included (n = 103)
Studies with overlapping samples (n = 10) collapsed and treated as 3 independent studies

Included

Independent studies included in quantitative synthesis (meta-analysis)
(n = 96)

Figure 1. Flowchart of study selection process.

2.3 Data collection and organisation

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA guidelines; Moher, Liberati, Tetzlaff & Altman, 2009) were used to design and report this meta-analysis. As such, a data extraction coding sheet was formulated to collate the following information from each study: (a) background demographic information (age, gender, participant recruitment, country of origin and ethnicity); (b) study design (experimental, non-experimental); (c) forgiveness measure name (e.g. TRIM, EFI); (d) forgiveness measure type (Interpersonal, Intrapersonal, single or behavioural); (e) predictor information (severity of transgression, closeness of relationship); (f) transgression methodology (recall or hypothetical scenario); (g) who the transgressor was (e.g. intimate) and (f) the effect size between forgiveness and predictor outcome (refer to appendix D for coding sheet).

2.4 Data Preparation

Prior to analysing the data, the following steps were taken to prepare the data for analysis; firstly, the forgiveness measures from each study were evaluated and classified as either Intrapersonal, Interpersonal, single or behavioural measures of forgiveness. Measures that were a combination of types (e.g. Intrapersonal and Interpersonal) were placed into separate categories. When it was not clear which category a forgiveness measure fit into, second opinions were sought from by the supervisors. Additionally, a small number of studies contained measures that did not fit into the four types. These 'other' measures were not reported in this study because they did not provide useful information for the purpose of this meta-analysis. Furthermore, the time constraints inherent in an honours thesis meant that it was not possible to have another person independently

code the articles. Therefore, when unsure of a particular concept, clarification was sought from by the supervisors.

Secondly, where a study reported both the total score of forgiveness and relevant predictor, as well as the individual scale score results, only the total score was included in the analysis to reduce the overall number of individual effect sizes included. Third, where only the mean was provided, standard deviations were estimated using the methods recommended by Wan, Wang, Liu, and Tong (2014). Finally, some studies reported higher values on a predictor as lower levels of forgiveness, whereas others reported higher values as greater levels of forgiveness. To adjust for these variations, all necessary statistics were recoded so that positive correlations indicated greater levels of forgiveness and were related to higher levels on that predictor variable.

2.5 Statistical analyses and interpretation

Analyses were performed using the Comprehensive Meta-Analysis software (CMA, version 3.0; Copyright 2014, Biostat, Inc., Englewood, NJ). The raw data were most frequently reported as Pearson's product correlations (r) and additionally provided in the form of t values and means and standard deviations from independent groups. These study effects were transformed using Fisher's Z scale for the calculation of relevant error statistics (Borenstein, Hedges, & Higgins, 2009; Wolf, 1986), and were weighted by the inverse of their sampling error variances. This weighting acknowledges that the reliability of an individual effect is influenced by the size of the sample from which it is derived; effect sizes calculated from larger samples are more precise, have smaller variance and are therefore given a higher weighting (Cumming, 2012; Lipsey & Wilson, 2001). Once weighted, Fisher's Z scores were back-translated into correlations for interpretation

(Borenstein et al., 2009). Correlations were interpreted using Cohen (1998) guidelines of $r = 0.1$, 0.3 and 0.5 equating to small, medium and large effects, respectively.

2.6 Between-subjects effects

Correlations for this meta-analysis were calculated with a conservative random-effects model. A random-effects model assumes that the variation in effect sizes produced from individual studies is a result of the study design combined with sampling error; thus, under the random-effects model one allows the true effect sizes to differ (Borenstein, Hedges, Higgins, & Rothstein, 2010). By contrast, a fixed-effect model assumes that this variation is solely due to sampling error; thus, there is one true effect (Borenstein et al., 2010).

Where a study reported multiple scores (e.g. forgiveness measured across multiple time points by the same participants) and these outcomes were eligible for inclusion in the same analysis, a mean effect was calculated to ensure that each study contributed only one effect size to any given analysis (Lipsey & Wilson, 2001). Heterogeneity was expected; thus, studies were grouped to examine the potential for moderating variables because it is suggested that the heterogeneity in findings between studies should be explored via sub-group analysis using a random-effects model (Borenstein et al., 2009). To examine moderation effects, each study was coded for the study design (experimental or non-experimental), predictor measurement (objective/manipulated or subjective) and the transgression methodology (recall or hypothetical). This enabled an exploration of whether the correlations reported in the current meta-analysis varied as a result of study characteristics.

Heterogeneity was assessed using Cochran's (1954) Q-statistic as well as the I^2 index. A significant Q value suggests variability in effect sizes reported by different studies (Borenstein et al., 2009). The I^2 index serves to complement the Q statistic because unlike Q, I^2 can quantify the

degree of heterogeneity in a meta-analysis by providing the percentage of total variation across studies that are due to heterogeneity rather than chance (Higgins, Thompson, Deeks, & Altman, 2003; Huedo-Medina, Sanchez-Meca, Marin-Martinez, & Botella, 2006). Negative values are replaced with zero, so that I^2 falls between 0-100%, with higher values corresponding to increasing heterogeneity (Higgins et al., 2003).

To explore effect size distributions and to aid assistance in identifying outliers, forest plots were generated along with 95% confidence intervals. Confidence intervals that do not include zero indicate that there is a statistically significant difference between the forgiveness measure and associated predictor. Additionally, probability *(p)* values were reported to further assess the statistical significance of the effect sizes ($p < .05$ indicates a significant result).

Finally, evidence suggests that studies that report statistically significant results are more likely to be published (referred to as the file drawer problem). Therefore, meta-analyses are unlikely to contain a random sample of all of the studies conducted (Rosenthal, 1995). Thus, to assess for publication bias, and the fact that non-peer-reviewed papers ('gray' literature) were excluded from this meta-analysis; Orwin's (1983) Fail-safe N (N_{fs}) was utilised. N_{fs} calculates the number of unpublished studies required to reduce an observed finding to a small effect (Borenstein et al., 2009). A small effect was defined by 0.1 (or -0.1) for Pearson's *r* (Cohen, 1998). If N_{fs} was larger than the number of studies contributing to that effect size ($N_{fs} > N_{studies}$) then publication bias was unlikely to have influenced outcomes.

CHAPTER 3

Results

3.1 Study Characteristics

Overall, the 96 independent studies yielded a total sample of 21, 223 participants. Studies were published between 1998 and 2018, with the majority originating from North America (Nstudies = 60). University students contributed to the majority of samples (Nstudies = 54). Furthermore, among the studies that reported ethnicity and gender, participants were predominantly Caucasian (Nparticipants = 7,853, 37%) and female (Nparticipants = 12,702, 63%). The participant mean age was 26.60, with an overall age range between 10-80 years. Studies predominantly utilised non-experimental designs with participants reporting on recall transgressions (Nstudies = 80 each) that rated Transgression Severity and Relationship Quality subjectively (Nstudies = 87 and 90 respectively). Further details surrounding participant demographics as well as a breakdown of study variables can be viewed in Table 1.

Table 1.
Demographic and study characteristics for included articles

	Studies		Participants		
	*N*studies	*N*participants	M	SD	%
Sample size	96	21,223	221.07	154.74	100
Age (years)	81	17,867	26.60	11.45	-
Gender (F)	91	12, 702	140	108.46	63.20
Participant recruitment					
University students	54	11,989	222.02	161.55	56.49
General Community	25	4,387	175.48	125.63	20.67
Online recruitment	4	1,050	262.50	168.19	4.95
School students	5	1,116	223.20	146.17	5.26
Combination	8	2,681	335.13	168.04	12.63
Ethnicity					
Caucasian	50	7,853	157.06	110.31	37.00
African/American	40	1,078	26.95	21.30	5.08
Asian	31	2,223	71.70	72.43	10.47
Hispanic	25	372	14.88	21.23	1.75
Other	29	552	12.23	15.57	2.60
Not reported	57	9,148	160.49	151.47	43.10
Origin of study					
North America	60	12, 207	203.45	132.34	62.50
Oceania	9	1,990	221.11	159.71	9.38
Europe	16	2,970	185.63	100.69	16.67
Asia	7	1,895	270.71	101.05	7.29
Combined	4	2,162	540.50	346.37	4.16
Type					
interpersonal	45	9,578	212.84	135.22	46.88
intrapersonal	13	3,084	237.23	266.71	13.54
single	13	3,239	249.15	148.59	13.54
behavioural	1	106	-	-	1.04
combined	24	5,216	217.33	118.21	25.00
Predictor					
Relationship quality	39	8989	230.48	135.54	40.62
Transgression severity	22	3599	163.59	93.78	22.92
both	35	8635	246.71	195.00	36.46
Transgression severity					
Low	2	575	287.50	153.44	2.08
Medium	38	7,022	184.79	102.89	39.58
High	11	1,624	147.64	143.31	11.46
Low-medium	2	440	220.00	130.64	2.08
Medium-high	11	2,560	232.73	156.16	11.46
Variety/not reported	32	8,195	256.09	198.89	33.33
Offense type					
Infidelity	6	1,193	198.83	128.59	6.23

Trust betrayal	11	2,553	232.09	129.91	11.46
Work related	10	1,951	195.10	118.74	10.42
divorce	3	395	131.67	93.04	3.13
variety	10	2,269	226.90	116.34	10.42
Other/not reported	56	12,862	229.68	177.43	58.33
Offender					
Intimate	42	8,570	204.05	138.53	43.75
Family/friend	14	3,223	230.21	132.08	14.58
Work colleague	12	2,283	190.25	108.14	12.50
variety	14	3,854	275.29	131.74	14.58
Other/not reported	14	3,293	235.21	261.40	14.58
Design					
Experimental	11	1,915	174.09	82.00	11.46
Non-experimental	80	17,441	218.01	159.32	83.33
Both	5	1,867	373.40	123.85	5.21
Scenario					
Recall	80	17, 672	220.90	161.04	83.33
Hypothetical	10	1,735	173.50	50.00	10.42
both	6	1,406	234.33	112.08	6.25
TS how measured					
Subjective	87	19,528	224.46	156.21	90.63
Objective	4	763	190.75	52.02	4.17
both	4	922	230.50	198.79	4.17
Not reported	1	10		-	1.03
RQ how measured					
Subjective	90	19,993	222.14	155.41	93.74
Manipulated	3	721	240.33	25.53	3.13
Both	3	509	169.67	43.75	3.13

Note: $N_{studies}$ & $N_{participants}$ = number of studies and participants contributing to each characteristic; M = mean number of participants; SD = standard deviation; TS= Transgression Severity; RQ = Relationship Quality

3.2 Study variability: predictors and type of measure used in each study

To address the variety of articles represented in this meta-analysis, studies were grouped according to the type of forgiveness measure that they utilised (Interpersonal, Intrapersonal, single or behavioural) as well as the predictor of forgiveness under investigation (Relationship Quality and/or Transgression Severity). The majority of articles (47%) measured forgiveness solely with an Interpersonal measure. Studies that included a combination of forgiveness measures with either one or both predictors were grouped together and contained the second largest proportion of studies (24%). This was followed by Intrapersonal and single (14% each), and least was one study reporting one behavioural measure (refer to figure 2 for a detailed break-down of study variability).
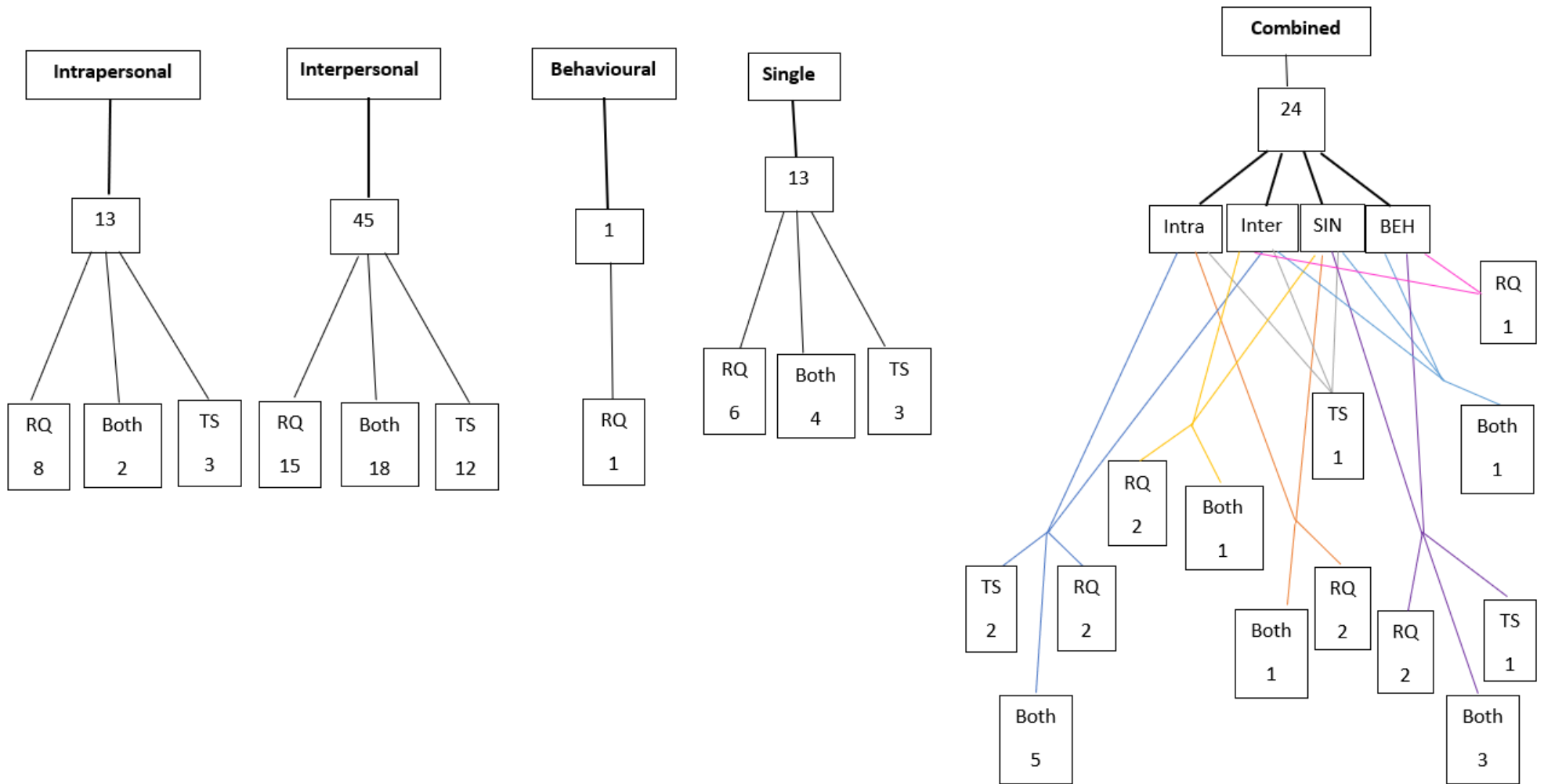
Figure 2: Flow chart of the articles included in the meta-analysis (n =96) categorized based on the forgiveness measures and predictors that they include.
Note: RQ = Relationship Quality, TS = Transgression Severity, Intra = Intrapersonal, Inter = Interpersonal, SIN = single & BEH = behavioural,
Combined = studies that included both predictors and/or more than one type of forgiveness measure.

3.3 Relationship Quality

3.3.1 Overall correlations for Relationship Quality predicting forgiveness

Figure 3 shows the individual correlations between Relationship Quality and forgiveness for each study; which combined, contributed to providing an overall correlation between Relationship Quality and forgiveness. For the most part, studies reported positive associations between Relationship Quality and forgiveness. Supporting the first pair of hypotheses and in line with prior literature, the results demonstrated an overall significant and positive association between Relationship Quality and forgiveness ($r = .35$, $p < .001$). Following the guidelines of Cohen (1998), this effect is of medium strength.
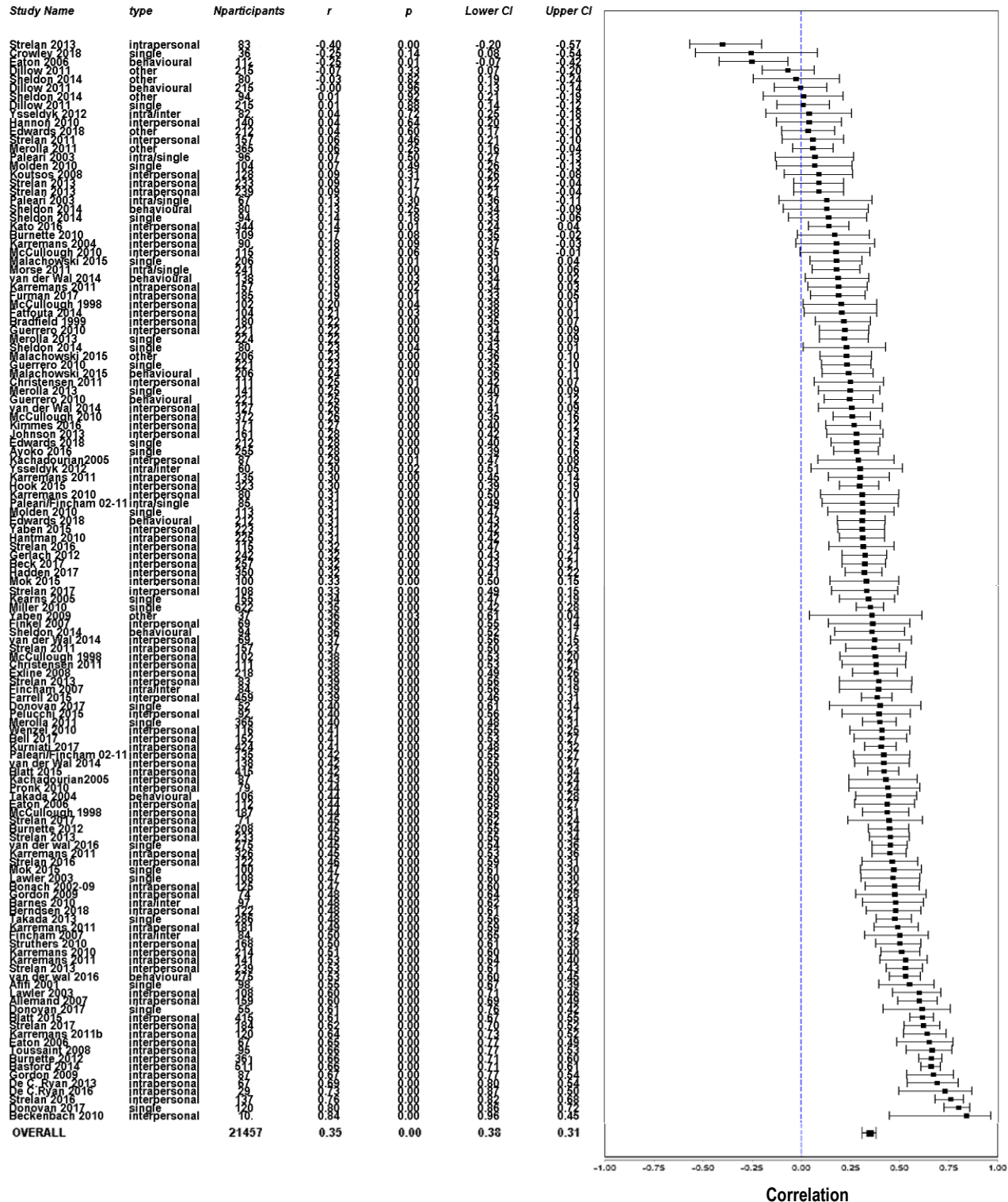
Figure 3. Individual correlations for studies reporting an association between Relationship Quality and forgiveness. Studies are ranked from lowest to highest correlation value. *Note: r* = average weighted Pearson correlation. *N*participants = total number of participants utilised to estimate a given effect; Lower CI and Upper CI = 95% confidence interval around *r*; *p* = probability of significance.

3.3.2 Main effects for Relationship Quality and the types of measures

The first pair of hypotheses posited a stronger, positive effect between Relationship Quality and Interpersonal measures of forgiveness (hypothesis 1) and conversely, weaker (positive) effects for Relationship Quality and Intrapersonal measures of forgiveness (hypothesis 2). Table 2 showed that all measure types were positive and significant, however neither hypothesis was supported. *Intrapersonal* measures of forgiveness depicted the largest observed effect with $r = .42$. This medium effect was similar for *Interpersonal,* with $r = .38$. The additional measures exhibited effects ranging from small to medium: for *Intrapersonal/single* ($r = .18$), *behavioural* ($r = .23$), *single* ($r = .34$) and combined *Intrapersonal/Interpersonal* ($r = .35$). Forest plots indicated that each type of forgiveness measure had varying confidence interval widths, suggesting different levels of precision across effect estimates (Sedwick, 2013).

Table 2 further indicated that the N_{fs} statistics were for the most part, greater than the number of studies (i.e. $N_{fs} > N_{studies}$), which suggests that the findings are unlikely to have encountered publication bias. However combined Intrapersonal/single had a lower N_{fs} statistic ($N_{fs} = 3$), which was likely influenced by the small number of studies making up this effect size ($N_{studies} = 4$). Furthermore, the combined Intrapersonal/Interpersonal and behavioural measures exhibited small N_{fs} statistics ($N_{fs} = 13$ each). Although these values do not indicate publication bias; low N_{fs} outcomes should be interpreted carefully. Finally, most Q and I^2 statistics indicated high levels of heterogeneity, suggesting that the findings from individual studies varied considerably, and thus a conservative random-effects model was the appropriate statistical model for this analysis.

Table 2.

Main Effects between Relationship Quality and the types of forgiveness measures

Measure type	$N_{studies}$	$N_{participants}$	r	95% CI	Heterogeneity Q	I^2	N_{fs}	Study References
Intrapersonal /single	4	490	.18**	[.09, .26]	2.92	0.00	3	73, 75- 79,
Behavioural	10	1659	.23*	[.08, .37]	87.24**	89.68	13	29, 32- 33, 44, 63, 83, 90, 96-97
Single	23	4137	.33**	[.26, .41]	171.70**	86.61	55	1, 4, 24, 29, 31, 33, 44, 56, 62- 63, 68, 69, 70- 72, 83, 91, 97
Intrapersonal /Interpersonal	5	407	.35**	[.19, .50]	13.79*	70.98	13	5, 37, 103
Interpersonal	56	9704	.38**	[.34, .43]	804.17**	89.43	157	6, 8-10, 12, 17-19, 21, 32, 34- 36, 39, 40, 42, 44-45, 47, 49-51, 53- 55, 57, 60, 62, 66, 67, 71, 76-79, 81- 82, 85-89, 96, 100, 102
Intrapersonal	23	3851	.42**	[.34, .49]	210.05**	89.05	74	2, 11-12, 14-16, 27-28, 41, 43, 48, 52, 61, 85-87, 92
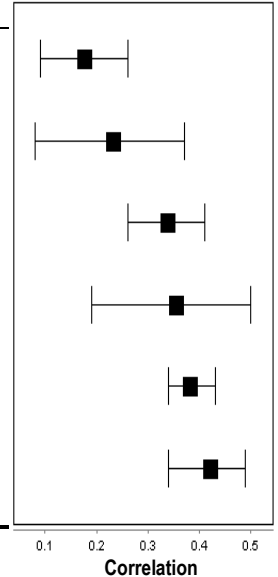
Note. r = average weighted Pearson correlation; $N_{studies}$ and $N_{participants}$ = total number of studies and participants utilised to estimate a given effect; 95% CI = 95% confidence interval around r; Q-statistic = test for heterogeneity; I^2 = effect of heterogeneity in percent form; N_{fs} = number of studies needed to shift the observed effect to include zero.
*p < .05. *** p < .001.

3.3.3 Sub-group analysis

Given the aforementioned heterogeneity in the findings, subgroup analyses were carried out to examine the extent to which specific study variables contributed to the results obtained for Relationship Quality and the types of measures. Figure 4 (a, c & d) showed that there was not much variation in *r* values for each of the moderators for Interpersonal, Intrapersonal and single measures. The moderator outcomes for Interpersonal measures of forgiveness (figure 4 (a)) indicated that the only *r* value that differed was *not reported* in *how measured*. The value of interest *(r = .64, p <.05)* was a product from studies that did not report information for this moderator, therefore this effect cannot be interpreted.

Figure 4 (c) showed that the moderator effects for Intrapersonal forgiveness were medium and significant (*r* range .41- .48, *p* < .001). The similarity in magnitude makes it unclear of where the differences lie. Figure 4 (d) showed a difference between *objective* and *subjective* measures (*r* = .07, *p* > .05 and *r* = .33, *p* < .001 respectively). However, there was also a large difference in the number of studies that made up each effect size ($N_{studies}$ = 1 and 18 for objective and subjective measures respectively). Finally, figure 4(b) showed that behavioural measures were moderated by all three study characteristics. *Study design* showed a difference between *experimental* and *non-experimental* designs (*r* = .13, *p* > .05 and *r* = .29, *p* < .001 respectively); *transgression methodology* showed a difference between *hypothetical* and *recall* scenarios (*r* = .12, *p* > .05 and *r* = .32, *p* < .001 respectively); and *RQ how measured* showed a difference between *manipulated* and *subjective* (*r* = .53, *p* < .001 and *r* = .19, *p* < .05 respectively). Albeit this, the *r* values for hypothetical and objective (figure 4(c)) were small ($N_{studies}$ = 2, 1 and 1 respectively). Thus, these results need to be interpreted with caution given the potentially low power resulting from fewer studies making up these correlation values.

a) **Moderator effects for Relationship Quality predicting Interpersonal measures of forgiveness**

Moderator	$N_{studies}$	$N_{participants}$	r	95% CI	Heterogeneity Q	I^2	Nfs	Study References
Study design								
Experimental	10	1359	.37**	[.27, .46]	35.67**	74.77	27	18, 32, 42, 54, 85- 88, 96
Nonexperimental	46	8345	.39**	[.33, .44]	376.56**	88.05	133	6, 8-10, 12, 17- 19, 21, 34-36, 39-40, 44-45, 47, 49-51, 53, 55, 57, 60, 62, 66-67, 71, 76-79, 81- 82, 85-86, 88-89, 96, 100, 102
Methodology								
Recall	47	8455	.38**	[.32, .43]	397.02**	88.41	132	6, 8-10, 12, 17-19, 34-36,39, 40, 44-45, 47, 49, 51, 53-55, 57, 60, 62, 66-67, 71, 76-79, 81-82, 85-89, 96, 100, 102
Hypothetical	9	1249	.39**	[.31, .46]	18.09*	55.77	26	19, 21, 32, 42, 50, 88
TS how measured								
Objective	1	242	.33**	[.21, .43]	-	-	2	42
Subjective	53	9244	.38**	[.33, .43]	408.51**	87.27	148	6, 8, 10, 12, 17, 19, 21, 32, 34-36, 39, 40, 44-45, 47, 49-51, 53, 55, 57, 60, 62, 66-67, 71, 76-79, 81-82, 85-89, 96, 100, 102
Not reported	2	218	.64*	[.06, .90]	3.70	72.99	11	9, 18
RQ how measured								
Subjective	53	9133	.39**	[.34, .43]	802.22**	89.78	154	6, 8-10, 12, 17-19, 21, 32, 34-36, 39, 40, 42, 44-45, 47, 49-51, 53, 55, 57, 60, 62, 66-67, 71, 76-79, 81-82, 85-89, 96, 100, 102
manipulated	3	571	.43**	[.35, .50]	1.68	0.00	10	19, 73, 88
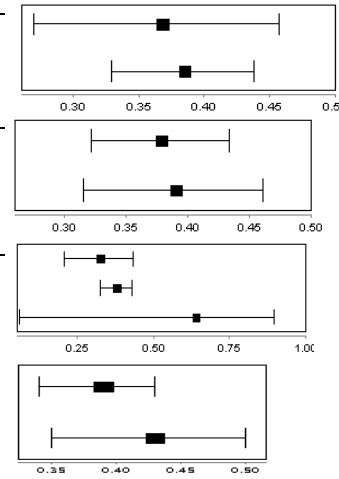
(b) **Moderator effects for Relationship Quality predicting behavioural measures of forgiveness**

Moderator	Nstudies	Nparticipants	r	95% CI	Heterogeneity Q	I^2	Nfs	Study References
Study design								
Experimental	4	740	.13	[-.23, .47]	78.83**	96.19	1	29, 32, 96, 97
Non-experimental	6	919	.29**	[.21, .36]	7.18	30.34	11	33, 44, 63, 83, 90
Methodology								
hypothetical	2	327	-.12	[-.35, .13]	4.58*	78.14	0	29, 32
recall	8	1332	.32**	[.21, .42]	31.87**	78.03	18	33, 44, 63, 83, 90, 96-97
RQ how measured								
Manipulated	1	275	.53**	[.45, .60]	-	-	4	97
Subjective	9	1384	.19*	[.06, .31]	46.60**	82.78	8	29, 32-33, 44, 63, 83, 90, 96
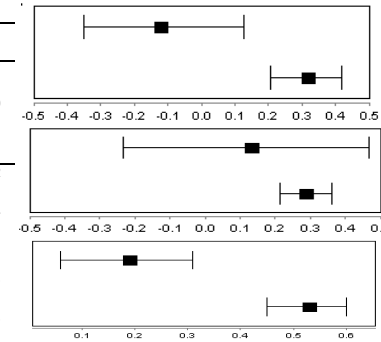
Figure 4. Main Effects between moderators and Relationship Quality: (a) moderation effects & Interpersonal measures; (b) moderation effects & behavioural measures; (c) moderation effects & Intrapersonal measures, (d) moderation effects & single measures. *r* = average weighted Pearson correlation; *N*studies and *N*participants = total number of studies and participants utilised to estimate a given effect; 95% CI = 95% confidence interval around *r*; *Q*-statistic = test for heterogeneity; I^2= effect of heterogeneity in percent form; *Nfs* = the number of studies needed to shift the observed effect to include zero.

*p < .05. *** p < .001.

(c) Moderator effects for Relationship Quality predicting Intrapersonal measures of forgiveness

Moderator	$N_{studies}$	$N_{participants}$	r	95% CI	Heterogeneity Q	I^2	N_{fs}	Study References
Study design								
Non-experimental	20	3501	.42**	[.32, .51]	207.44**	90.84	64	2, 12, 14-16, 27-28, 41, 43, 48, 52, 61, 86, 92
Experimental	3	350	.43**	[.33, .51]	1.27	0.00	10	11, 85, 87
Methodology								
recall	21	3658	.42**	[.20, .50]	207.48**	90.36	67	2, 12, 14-16, 27-28, 41, 43, 48, 52, 61, 86-87, 92
Hypothetical	2	193	.47**	[.35, .57]	0.08	0.00	7	11, 85
TS how measured								
Not reported	1	424	.41**	[.32, .48]	-	-	3	61
Subjective	21	3305	.42**	[.32, .51]	207.60**	90.36	67	2, 12, 14-16, 27-28, 41, 43, 48, 52, 85-87, 92
Objective	1	122	.48**	[.33, .61]	-	-	4	11
RQ how measured								
Manipulate	2	404	.35**	[.23, .47]	1.29	22.28	5	48, 85
Subjective	21	3447	.42**	[.34, .50]	207.79**	89.89	67	2, 11-12, 14-16, 27-28, 41, 43, 52, 86-87, 61, 92

(d) Moderator effects for Relationship Quality predicting single measures of forgiveness

Moderator	$N_{studies}$	$N_{participants}$	r	95% CI	Heterogeneity Q	I^2	N_{fs}	Study References
Study design								
Experimental	5	750	.28	[-.11, .60]	115.60**	96.54	9	24, 29, 31, 72, 97
Non-experimental	18	3387	.34**	[.29, .39]	49.21**	65.46	43	1, 4, 31, 33, 44, 56, 62-63, 68- 69, 71-72, 83, 91
Methodology								
recall	19	3600	.33**	[.28, .38]	60.53**	70.3	44	4, 24, 31, 33, 44, 56, 62-63, 68-72, 83, 91, 97
Hypothetical	3	439	.37	[-.28, .79]	97.16**	97.9	8	29, 31, 72
both	1	98	.55**	[.40, .68]	-	-	5	1
TS how measured								
Objective	1	104	.07	[-.13, .26]	-	-	0	72
Subjective	18	3491	.33**	[.27, .40]	66.92**	74.60	41	1, 4, 24, 31, 33-44, 62-63, 68-69, 70-71, 83, 91, 97
both	1	155	.34**	[.20, .47]	-	-	2	56
Not reported	3	387	.47	[-.21, .84]	88.93**	97.75	11	29, 31
RQ how measured								
Manipulated	1	275	.45**	[.36, .54]	-	-	3	97
Subjective	22	3862	.33**	[.25, .40]	165.17**	86.68	51	1, 4, 24, 29, 31, 33-44, 56, 62-63, 68-69, 70-72, 83, 91,

Figure 4. (continued)

3.3.4 Exploratory Analyses

To further understand the results from the main analyses (section 3.3.2); exploratory analyses were carried out. Common types of Intrapersonal and Interpersonal measures were individually explored, and their correlations compared, with results displayed in Table 3. Inspection of Table 3 showed that the EFI had a large, significant and positive association with Relationship Quality ($r = .60$, $p < .001$), which perhaps influenced the larger-than-expected correlation in section 3.3.2 (i.e. $r = .42$) between Intrapersonal measures and Relationship Quality. Interestingly, the TRIM-B showed a verging-on-large, positive and significant correlation with Relationship Quality ($r = .45$, $p < .001$). Overall, the effect for Interpersonal measures was similar to the main analyses ($r = .39$ compared to $r = .38$ (table 2)); however, as Table 3 illustrated, there was discrepancy in correlation values among the measures used; with r values ranging from small to moderate-large ($r = .22$ to .45).

Table 3.
Correlations for the common Intrapersonal and Interpersonal forgiveness measures: Relationship Quality

Study Name	$N_{studies}$	$N_{participants}$	r	95% CI	Heterogeneity		N_{fs}	Study References
					Q	I^2		
Intrapersonal								
EFS	1	24	.39**	[.30, .46]	-	-	3	61
DFS	1	24	.44**	[.35, .50]	-	-	3	61
EFI	5	76	.60**	[.43, .74]	29.64**	86.51	25	2, 27-28, 48, 92
Interpersonal								
WADE	2	80	.22	[-.21, .43]	5.37*	81.39	2	17
MOFS	4	60	.34**	[.27, .40]	2.30	0.00	10	8, 57, 76-79, 81
TRIM	62	299	.40**	[.34, .45]	667.71**	90.86	186	6, 12, 18-19, 21, 32, 34-36, 44-45, 49, 51, 53-54, 60, 62, 66-67, 85-87, 82, 96, 100,
TRIM-B	0	695	.45**	[.31, .57]	104.45	91.38	35	36, 49, 53, 60, 86, 88,

Note: EFS = Emotional forgiveness scale; DFS = Decisional Forgiveness scale; EFI = Enright Forgiveness Inventory; TRIM = Transgression Related Interpersonal Motivations Inventory (all scales); TRIM-B = Benevolence scale of the TRIM; MOFS; Marital Offense Forgiveness Scale; WADE= Wade Forgiveness Scale; $N_{studies}$ and $N_{participants}$ = number of studies and participants contributing to that effect; r = average weighted Pearson correlation; 95% CI = 95% confidence interval around r; Q-statistic = test for heterogeneity; I^2= effect of heterogeneity in percent form; N_{fs} = the number of studies needed to shift the observed effect to include zero.
*p < .05. *** p < .001

3.4 Transgression Severity

3.4.1 Overall correlations for Transgression Severity predicting forgiveness

Figure 5 displays the individual correlations between Transgression Severity and forgiveness for each study, which together, contributed to providing an overall correlation between Transgression Severity and forgiveness. Once again, there was a variety of effects reported, with the majority showing negative correlations with Transgression Severity. Supporting hypotheses 3 and 4 and in line with prior literature, the results showed an overall significant, negative association between Transgression Severity and forgiveness ($r = -.23$, $p < .001$). Following the guidelines of Cohen (1998), this effect is small.
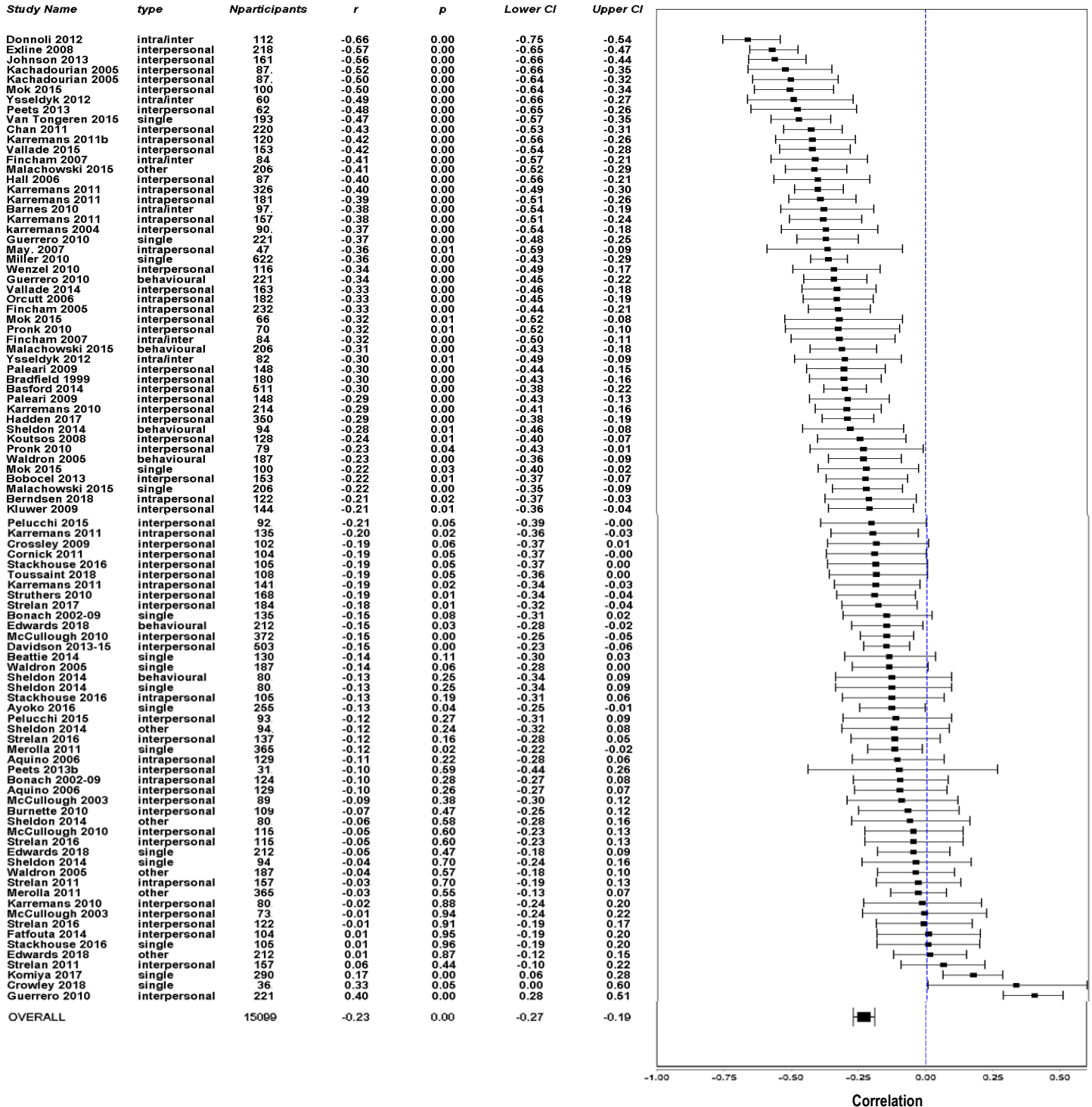
Figure 5. Individual correlations for studies reporting an association for Transgression Severity. Studies are ranked from lowest to highest correlation value. *Note: r* = average weighted Pearson correlation; *N*participants = total number of participants utilised to estimate a given effect; Lower CI and Upper CI = 95% confidence interval around *r*; *p* = probability of significance.

3.4.2 Main effects for Transgression Severity and the types of measures

The second pair of hypotheses posit a weaker, negative association between Transgression Severity and any measure of forgiveness that tends to be relationship-oriented (hypothesis 3), as well as a stronger (negative) association between Transgression Severity and any measures of forgiveness that is self-focused (hypothesis 4). All measure types were negative, and significantly correlated with Transgression Severity. However, table 4 showed that the hypotheses were neither unsupported, nor confirmed. The magnitude of effect of Transgression Severity on *Intrapersonal* and *Interpersonal* forgiveness was similar, with small effects for each measure type ($r = -.26$ and $r = -.23$, respectively). Combined *Intrapersonal/Interpersonal* measures of forgiveness displayed the strongest association; with a medium-large correlation of $r = -.45$. The impact of *behaviour* and *single* measures of forgiveness were small-moderate for behavioural ($r = -.25$), and small for single ($r = -.15$). Forest plots indicated that the confidence interval widths for each measure type varied, suggesting different levels of precision across effect estimates (Sedwick, 2013).

Table 4 further showed that the *Nfs* statistics were larger than the number of studies for combined Intrapersonal/Interpersonal, Intrapersonal, Interpersonal and behavioural measures; suggesting that these measures are unlikely to have encountered publication bias. Contrastingly, single measures showed lower *Nfs* statistics than the number of studies reporting this effect (*Nfs* = 8); which suggests potential publication bias. Most Q and I^2 statistics exhibited moderately high levels of heterogeneity, indicating that the findings from individual studies varied considerably, and thus a conservative random-effects model was the appropriate statistical model for this analysis.

Table 4.

Main Effects for Transgression Severity and the types of forgiveness measures

Measure type	$N_{studies}$	$N_{participants}$	r	95% CI	Heterogeneity Q	I^2	N_{fs}	Study References
Intrapersonal/ interpersonal	6	519	-.45**	[-.56, -.30]	15.72*	68.20	21	5, 30, 37, 103
Intrapersonal	14	2158	-.26**	[-.33, -.19]	38.82**	66.51	22	3, 11, 14-16, 38, 52, 64, 74, 84, 87
Behavioural	6	1000	-.25**	[-.32, -.18]	6.63	24.63	9	33, 44, 63, 83, 99
Interpersonal	47	7048	-.23**	[-.29, -.18]	281.88**	83.68	61	3, 6, 13, 17-18, 20, 22-23, 25-26, 34, 36, 44-46, 50-51, 53-54, 58, 60, 65-66, 71, 76, 80- 82, 84-85, 87-89, 93-95, 100
Single	16	3231	-.15*	[-.24, -.05]	111.43**	86.54	8	4, 7, 14-16, 24, 33, 44, 59, 63, 68, 70-71, 83-84, 98-99
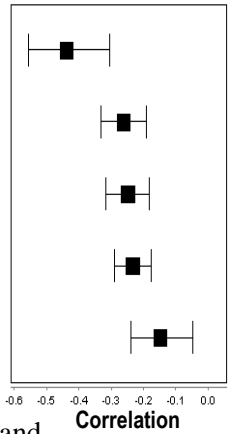
Note. r = average weighted Pearson correlation; $N_{studies}$ and $N_{participants}$ = total number of studies and participants utilised to estimate a given effect; 95% CI = 95% confidence interval around r; Q-statistic = test for heterogeneity; I^2 = effect of heterogeneity in percent form; N_{fs} = number of studies needed to shift the observed effect to include zero.

*p < .05. *** p < .001.

3.4.3 Sub-group analyses

Given the aforementioned heterogeneity in the findings, subgroup analyses were carried out to examine the extent to which specific study variables moderated the effects between forgiveness measure types and Transgression Severity. Moderator analysis for behavioural measures of forgiveness could not be computed because there was no variation in study characteristics (i.e. all behavioural measure studies were non-experimental, recall scenarios and subjectively measured). Inspection of Figure 6 (a) showed differences in correlations for both moderators on single measures; with r = -.19 and r =.19, p < .001 for *study design,* and r = -.15, p < .05 and r = .01, p > .05 for *how measured*. However, for each moderator, there was a large difference between the number of studies contributing to each effect ($N_{studies}$ = 14 vs 2 for study design, and $N_{studies}$ = 15 vs 1 for how measured). Thus, these moderators need to be evaluated with caution given the potentially low power from the studies contributing to the small correlations (i.e. *experimental* and *objective*).

Inspection of figure 6 (b) and (c) indicated that *study design* moderated the outcomes on Intrapersonal and Interpersonal measures of forgiveness; with a significant difference in *r* values for *non-experimental* design ($r = -.29$, $p < .001$) and ($r = -.25$, $p < .001$) respectively, and a non-significant difference for *experimental design* ($r = -.12$, $p > .05$ each).

(a) Transgression Severity and Single measures of forgiveness- Moderator Effects

Moderator	Nstudies	Nparticipants	r	95% CI	Heterogeneity Q	I²	Nfs	Study References
Study design								
Non-experimental	14	2905	-.19**	[-.27, -.11]	60.26**	8.43	3	4, 7, 14-16, 33, 44, 63, 68, 70-71, 83-84, 98-99
Experimental	2	326	.19**	[.08, .29]	0.86	0.00	2	24, 59
How measured								
Subjective	15	3126	-.15*	[-.25, -.05]	107.66**	7.00	8	4, 7, 14-16, 24, 33, 44, 59, 63, 68, 70-71, 83-84, 98-99
Objective	1	105	.01	[-.19, .20]	-	-	0	84
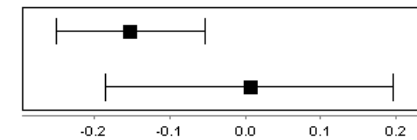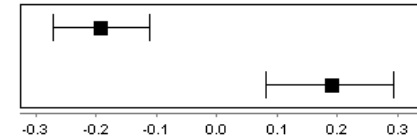
(b) Transgression Severity and Intrapersonal measures of forgiveness- Moderator Effects

Moderator	Nstudies	Nparticipants	r	95% CI	Heterogeneity Q	I²	Nfs	Study References
Study design								
Non-Experimental	12	1879	-.29**	[-.35, -.22]	27.08*	59.38	23	3, 14-16, 38, 52, 64, 84
Experimental	2	279	-.12	[-.29, .06]	2.22	55.00	0	11, 87
Methodology								
Recall	13	2036	-.27**	[-.34, -.19]	38.17**	68.56	22	3, 14-16, 38, 52, 64, 84, 87
Hypothetical	1	122	-.21*	[-.37, -.03]	-	-	1	11
How measured								
Both	1	232	-.33**	[-.44, -.21]	-	-	2	38
Subjective	10	1517	-.26**	[-.36, -.17]	34.54**	73.95	16	3, 14-16, 52, 64, 87
Objective	3	409	-.24**	[-.35, -.12]	3.16	36.60	4	11, 74, 84
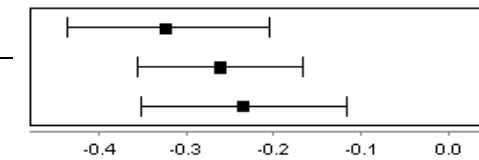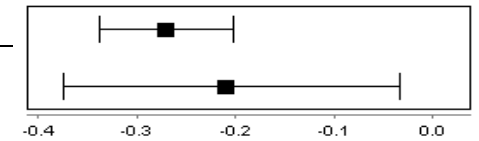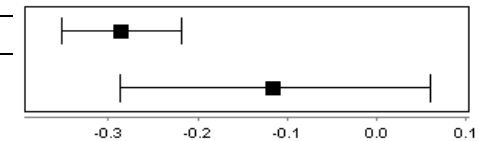
Figure 6. Main Effects for Transgression Severity: (a) moderation effects and single measures; (b) moderation effects and Intrapersonal measures; (c) moderation effects and Interpersonal measures; *r* = average weighted Pearson correlation; *N*studies and *N*participants = total number of studies and participants utilised to estimate a given effect; 95% CI = 95% confidence interval around *r*; *Q*-statistic = test for heterogeneity; I^2 = effect of heterogeneity in percent form; *Nfs* = the number of studies needed to shift the observed effect to include zero.
*p < .05. *** p < .001

(c) **Transgression Severity and Interpersonal measures of forgiveness-Moderator Effects**

Moderator	$N_{studies}$	$N_{participants}$	r	95% CI	Heterogeneity Q	I^2	N_{fs}	Study References
Study design								
Nonexperimental	41	6369	-.25**	[-.31, -.19]	253.12**	84.20	62	3, 6, 13, 17-18, 20, 22, 25-26, 34, 44-46, 51, 53, 58, 60, 65- 66, 71, 76, 80-82, 84-85, 88-89, 93-95, 100
Experimental	6	679	-.12	[-.23, .02]	13.29*	62.38	1	23, 54, 81, 87-88
Methodology								
Recall	42	6455	-.24**	[-.30, -.18]	245.53**	83.30	59	3, 6, 13, 17-18, 20, 22, 25-26, 34, 36, 44-46, 51, 53-54, 58, 60, 65-66, 71, 76, 80-82, 84-85, 87-89, 93-95, 100
Hypothetical	5	593	-.20	[-.42, .04]	36.35**	88.99	5	23, 50, 81, 88
How measured								
Subjective	46	6943	-.24**	[-.29, -.18]	281.68**	84.02	64	3, 6, 13, 17-18, 20, 22-23, 25-26, 34, 36, 44-46, 50-51, 53-54, 58, 60, 65- 66, 71, 76, 80-82, 84-85, 87-89, 93-95, 100
Objective	1	105	-.19	[-.37, .001]	-	-	1	84
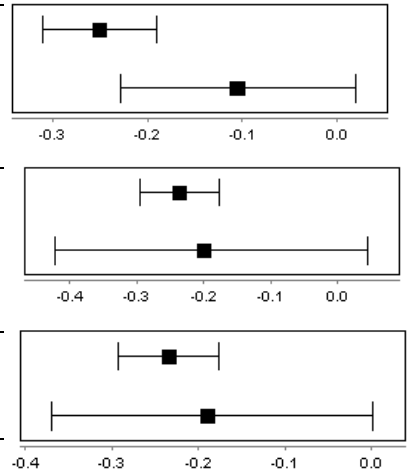
Figure 6. (continued)

3.4.4 Exploratory analyses

To understand the similar results observed in the main analyses (section 3.4.2); exploratory analyses were carried out. Common Intrapersonal and Interpersonal forgiveness measures were individually explored, and their correlations compared, with results displayed in Table 5. There was a large, negative association between EFI and Transgression Severity ($r = -.33$, $p < .001$); which supports hypothesis 4, namely that Intrapersonal measures would report stronger effects. However, there was only one study contributing to this effect. The overall correlation for Interpersonal measures was similar to the overall correlation for Interpersonal measures in the main analysis in section 3.4.2 ($r = -.22$ vs $r = -.23$ (table 4)). However, as Table 5 showed, there was variation in correlations (small to moderate) among the common measures (r range -.16 to -.30). Interestingly, the TRIM-B showed the weakest effect ($r = -.16$), which is in accordance with hypothesis 3, which predicted that conciliatory measures would display more forgiveness.

Table 5.
Correlations for common Intrapersonal and Interpersonal forgiveness measures: Transgression Severity

Study Name	$N_{studies}$	$N_{participants}$	r	95% CI	Heterogeneity		N_{fs}	Study references	
					Q	I^2			
Intrapersonal									
EFI	1	182	-.33**	[-.45, -.19]	-	-	2	74	
Interpersonal									
WFS	2	180	-.30	[-.64, .13]	18.30**	94.53	4	17	
MOFS	4	333	-.25**	[-.33, -.16]	2.66	0.00	6	76, 81	
TRIM	65	11241	-.22**	[-.26, -.17]	346.42**	81.53	78	6, 13, 18, 20, 22-25, 34, 36, 45-46, 51, 53-54, 58,60, 65-66 71, 80, 82, 84-85, 88-89, 93-95, 100	
TRIM-B	14	1985	-.16**	[-.22, -.10]	22.00	40.90	8	13, 22, 24-25, 36, 60, 65, 84, 88, 95	

Note: EFI = Enright Forgiveness Inventory; TRIM = Transgression Related Interpersonal Motivations Inventory-all scales; TRIM-B = TRIM benevolence scale; MOFS; Marital Offense Forgiveness Scale; WFS= Wade Forgiveness Scale; $N_{studies}$ and $N_{participants}$= number of studies and participants contributing to that effect; r = average weighted Pearson correlation; 95% CI = 95% confidence interval around r; Q-statistic = test for heterogeneity; I^2= effect of heterogeneity in percent form; N_{fs} = the number of studies needed to shift the observed effect to include zero.
*p < .05. *** p < .001

CHAPTER 4

Discussion

4.1 Key findings

The current meta-analysis included 96 independent studies comprising a total of 21, 223 individuals (63% female), that reported forgiveness as predicted by Transgression Severity and/or Relationship Quality. The articles measured forgiveness with one or a combination of, Intrapersonal, Interpersonal, single and behavioural measures. This enabled for a detailed, systematic assessment of whether the type of forgiveness measure used affects how or when forgiveness is predicted. The main findings for each predictor and moderators alongside explanations are discussed below.

4.1.1 Relationship Quality

As summarised in Figure 3, forgiveness was positively associated with Relationship Quality. This finding complements prior literature (for review, see Fehr et al., 2010), suggesting that when victim's perceive their relationship with their offender as close, they are more likely to forgive. Table 2 showed that mean correlations were all significant, and differed in strength among the measure types, ranging from small to medium (r range = .18 - .42). This suggests that the amount of forgiveness that is predicted by Relationship Quality is influenced by the type of measure used. Regarding Interpersonal and Intrapersonal measures of forgiveness, correlations were r = .38 and r = .42 respectively, which explained an average of 14% and 18% of variance. These correlations were significant; suggesting that Relationship Quality predicted slightly more variance when an Intrapersonal measure was used in comparison to an Interpersonal measure. This

finding does not support the first two hypotheses, which posited Relationship Quality to have a greater impact on Interpersonal measures compared to Intrapersonal measures.

Interpersonal measures are relationship-focused, which provided good reason to articulate that Relationship Quality would produce larger effects with Interpersonal measures in comparison to Intrapersonal measures. Thus, exploratory analyses were carried out to further investigate these unexpected findings. Conducting additional analyses on the common Intrapersonal and Interpersonal measures revealed that the EFI exhibited a large correlation with Relationship Quality ($r = .60$). A closer inspection of the studies contributing to this effect indicated that two studies (De Caporale-Ryan, Steffen, Marwit, & Meuser, 2013, 2016) used two samples comprising older Italian women in long-term (average 32 year) marriages, who were reporting on forgiveness toward their husbands. Therefore, perhaps the large Relationship Quality and forgiveness association reported on the EFI scale was a product of biased sampling, which further contributed to the larger-than-expected effect between Relationship Quality and Intrapersonal measures (i.e. $r = .42$)

Interestingly, the relationship between the TRIM-B and Relationship Quality was $r = .45$, with a mean explained variance of 20%. This verging-on-large effect complements initial predictions that conciliatory measures would produce large associations between forgiveness and Relationship Quality. Therefore, it is possible that within the main analysis there was inconsistency among the discrete Interpersonal measures. The extent of relationship-orientation may have differed between measures, which potentially reduced the overall correlation. Indeed, discrepancy among the common individual Interpersonal measures was observed in the exploratory analysis, from small to moderate-large effects (r range = .22-.45). Likewise, this reasoning can be applied to Intrapersonal measures. Moreover, it is possible that some measures contained a combination

of measure types, which distorted the effects. For example, the Rye scale (Rye et al., 2001) has 15 statements, with 13 oriented toward the self. Therefore, this measure was classified as Intrapersonal. However, two statements including "I spend time thinking about ways to get back at the person who wronged me" (Rye et al., 2001, p. 267), seem to measure negative motivations often employed in Interpersonal measures. Therefore, heterogeneity within measure types may have further impacted upon the similar correlations observed between Intrapersonal and Interpersonal measures.

4.1.2 Transgression Severity

As summarised in Figure 5, forgiveness was negatively associated with Transgression Severity. This finding complements prior literature (for review, see Fehr et al., 2010), suggesting that when victim's perceive the transgression as more severe, they are less likely to forgive. Table 4 showed that correlations were all significant, ranging from small to moderate-large among the measure types (r range = -.15 to -.45). This suggests that the type of measure used does affect the amount of forgiveness reported on Transgression Severity. However, mean correlations for Intrapersonal and Interpersonal measures were similarly reported, with $r = -.26$ and $r = -.23$ respectively. The explained variance was 5%-7% respectively, which demonstrates that Intrapersonal and Interpersonal measures produced comparable responses on forgiveness. As such, the last two hypotheses were neither unsupported, nor confirmed.

Exploratory analyses were carried out to consider explanations for these similar outcomes. With only one study reporting a common Intrapersonal measure (the EFI), it was not possible to explore the lower-than-anticipated correlation between Intrapersonal measures and Transgression Severity (i.e. $r = -.26$). Among Interpersonal measures, it was interesting to note that the TRIM-B

produced the smallest effect ($r = -.16$, $p < .001$), suggesting that this purely conciliatory measure reported more forgiveness in response to Transgression Severity than any other measure. This finding is in accordance with the second pair of hypotheses, which suggested that Transgression Severity would exhibit more forgiveness (smaller negative effects) on conciliatory measures compared to internalised measures. Therefore, the overall larger-than-anticipated correlation between Interpersonal measures and Transgression Severity may once again be impacted by a lack of clear-cut distinction between types of measures.

Nevertheless, the similarity in findings for Transgression Severity with Intrapersonal and Interpersonal measures may be justifiable. McCullough et al. (1998) presented one explanation where, when thinking about forgiving for the sake of the relationship, a victim that is highly embedded within their relationship may have greater motivation to perceive the transgression as less severe, in order to forgive the offender more easily to restore the relationship. Alternatively, if a victim was transgressed by someone whom they felt close to, perhaps the transgression would feel more serious and cause more hurt. Therefore, if measured with an Interpersonal measure that reminds the victim of the important person and this serious hurt, this may influence the victim to report less forgiveness. Thus, the context of the situation potentially influenced higher and lower forgiveness for Interpersonal measures which when averaged out, resulted in an overall similar correlation to that observed for Intrapersonal measures.

4.1.3 Sample and study characteristics: Relationship Quality and Transgression Severity

One of the strengths of meta-analyses is that they allow for a primary analysis of sample and study characteristics which are often only a secondary focus in quantitative research (Fehr et

al., 2010). In this meta-analysis, three study characteristics were examined; transgression methodology (recall vs hypothetical), study design (non-experimental vs experimental) and how predictors were measured (subjective vs objective/manipulated). Additional study characteristics such as who the transgressor was (e.g. family, friend), the forgiveness measures (e.g. TRIM) and what the transgression was (e.g. infidelity) were coded for, however could not be investigated due to: (a) lack of studies reporting on these variables, or (b) too many variables reported without specific amounts provided (see Appendix C for summary details of studies for clarification). Furthermore, demographic moderators such as age and gender were not explored, as prior forgiveness reviews have each demonstrated negligible effects between gender and age with forgiveness (Fehr et al., 2010).

Little support was found to suggest that study characteristics moderated Intrapersonal or Interpersonal forgiveness when predicted by Relationship Quality. Looking further to Transgression Severity, study design seemed to suggest a moderating effect; with stronger (negative) correlations reported on non-experimental design for Intrapersonal ($r = -.29$, $p < .001$) and Interpersonal ($r = -.25$, p < .001) measures. In both cases, the effect of experimental design was nonsignificant ($r = -.12$, p > .05 each). Study design also exhibited a moderating effect for Transgression Severity on single measures ($r = -.19$ vs .19, $p < .001$ for non-experimental and experimental respectively). Collectively, these findings suggest that study design impacted the level of forgiveness granted. Specifically, more forgiveness was granted on Transgression Severity for Intrapersonal, Interpersonal and single measures when the study included a non-experimental design. Finally, Relationship Quality and behavioural measures showed moderating effects for all three moderators; such that more forgiveness was granted on Relationship Quality when the study

included a non-experimental design, recall scenario and when Relationship Quality was manipulated.

The significant heterogeneity for both predictors indicated good reason to test for moderators, however there was little evidence to suggest that the results for Intrapersonal and Interpersonal measures were moderated by transgression methodology or predictor measurement. This is an interesting outcome for the transgression methodology, as one past meta-analysis found that hypothetical rather than recall scenarios produced inflated effect sizes (Riek & Mania, 2012). Considering the current findings, future research should continue to employ both methods, as each contributes useful information; such that recall scenarios can inform us when people *actually* forgive while hypothetical scenarios can tell us when people *should* forgive.

4.2 Implications and future research

The medium, positive associations observed for Relationship Quality and small, negative associations observed for Transgression Severity on both Intrapersonal and Interpersonal measures of forgiveness provide evidence to suggest that these two methods used to measure forgiveness did not exhibit notable differences in predictor outcomes. This suggests that contrary to expectation, the predominant measures of forgiveness are measuring forgiveness in a similar way. Therefore, how or when forgiveness is predicted does not seem to be affected by a choice between relationship-oriented or self-oriented forgiveness measures. These findings should offer consolation to research scholars, as the findings suggest that past forgiveness research has not been impacted by the application of these measures.

Nevertheless, this meta-analysis raised an important concern regarding forgiveness and reconciliation. Reconciliation and forgiveness are two separate concepts. Therefore, it becomes

unclear when forgiveness is sometimes measured as conciliation and at other times not. To illustrate, two studies (Aquino, Tripp, & Bies, 2001, 2006) investigated forgiveness and reconciliation in the workplace, measuring each concept with separate instruments. Interestingly, to measure reconciliation, Aquino et al., (2001, 2006) employed scale items from the Wade (1989) conciliation subscale. However, Wade's (1989) scale was also the foundation to the development of the TRIM benevolence scale, which is one of the most applied measures of forgiveness in current forgiveness research (McCullough et al., 1998; Worthington et al., 2015). Therefore, what is measured by some researchers as a reconciliation scale is measured by others as a forgiveness scale. This demonstrates that within the forgiveness literature, there is unclarity in what constitutes a forgiveness measure. As a result, disparity in effects are being reported as highlighted by the exploratory analyses, which showed that the TRIM's benevolence scale exhibited more forgiveness on Relationship Quality and Transgression Severity in comparison to the other types of forgiveness measures.

Therefore, although the main findings did not suggest that Intrapersonal and Interpersonal measures affected how or when forgiveness was predicted; there is still good reason to believe that this may be the case. To elaborate on these concerns, future research could explore additional predictors to grasp a larger portrayal of the issue. Moreover, the two predictors in this meta-analysis reported considerably more effects for Interpersonal measures (47%) in comparison to Intrapersonal measures (14%) (see figure 2 for illustration). Thus, the difference in the number of studies reporting each measure's correlation may have further impacted upon the results. Studying a larger number of predictors such as the intent, or apology would provide a larger exploration of this issue, which would help to clarify whether Interpersonal and Intrapersonal measures impact upon the effects of predictor outcomes. Conclusively, when considering all types of measures, the

findings showed that how and when forgiveness is predicted does differ among measure types. Therefore, researchers need to be aware of the impacts that measures have on predictor outcomes, and move toward utilising a more complete measure of forgiveness.

4.3 Limitations

There were several limitations present in this meta-analysis which may have impacted the findings. First, meta-analyses are susceptible from a methodological perspective because their accuracy is dependent on the quality and characteristics of the studies from which they derive (Borenstein et al., 2009). While a meta-analysis utilising the studies that it is analysing can produce a mathematically comprehensive synthesis; if individual studies are biased, then the mean effect reported by the meta-analysis will reflect this bias (Borenstein et al., 2009). An example of such a bias was addressed regarding the older Italian samples reporting an effect with the EFI for Relationship Quality; which may have distorted the overall effect for Intrapersonal measures and Relationship Quality.

Subsequently, despite the thorough search strategy employed to locate eligible studies; not all relevant studies may have been included. A larger inclusion of databases (e.g. embase, web of science) and search strategies (e.g. searching reference lists, contacting authors) may have ensured a more thorough coverage of relevant studies. Furthermore, limiting the search criteria to peer-reviewed publications reduced the inclusion of potentially useful studies. Albeit this, *Nfs* calculations were carried out to address this issue. For the most part, *Nfs* statistics were greater than the number of studies reporting each effect, which suggests that the findings were unlikely to be susceptible to publication bias.

Additionally, the low number of studies contributing to the moderator analyses may suggest some imprecision in the estimates due to a lack of power. A minimum of 10 studies have been reported as the standard for subgroup analyses to reliably detect differences between groups (Fu et al., 2011). While this standard was met in this meta-analysis, recent evidence suggests that a minimum of 20 studies are actually needed (Rubio-Aparicio, Sánchez-Meca, López-López, Botella, & Marín-Martínez, 2017). As such, the sub-group analyses may have been underpowered, which potentially affected the non-significant findings seldom observed for non-experimental, hypothetical, objective and manipulated variables. Heterogeneity also appeared non-significant for these categories, which potentially occurred due to a low number of studies reporting these effects. Collectively, these factors may contribute to the overall low number of moderating effects observed in this study.

Finally, this meta-analysis was for the most part, subjectively reported and correlational in nature; thus, no direct causal relationships between predictor outcomes on the types of forgiveness measures can be made. This is a known limitation of correlational meta-analyses more generally (Knight, Fabes, & Higgins, 1996). Along the likes of subjectivity, this meta-analysis was only coded for by the first researcher. Moreover, the decision as to which measure fit into which type of forgiveness category was also subjectively judged. Thus, a certain level of researcher bias may have impacted upon the accuracy of the results.

4.4 Conclusion

Forgiveness is a complex concept that has been challenging to precisely define. A growth in forgiveness scholarship has demonstrated that forgiveness is a predominantly positive phenomenon that provides health benefits for victims following interpersonal transgressions.

Despite these advances, forgiveness research has lacked due to its diverse application of forgiveness measures. As such, arguments were presented to suggest that these different measures accounted for some of the heterogeneity of effect sizes reported in current forgiveness literature. Tentative novel findings of this study suggested that there does not seem to be an apparent discrepancy in effect sizes for Relationship Quality or Transgression Severity when using Intrapersonal or Interpersonal forgiveness measures. However, these findings should be substantiated with additional predictors of forgiveness, as the current results may have been influenced by a difference in the number of studies reporting effect sizes for Intrapersonal vs Interpersonal measures, and a lack of clear-cut distinction between discrete measure types. Consequently, the current findings provide direction for future scholars to be mindful of the impacts of forgiveness measures. Additionally, future researchers would be wise to move towards incorporating more complete measures of forgiveness, that tap into both Intrapersonal and Interpersonal forgiveness. A common measure would facilitate greater consensus regarding what forgiveness is, which would enable scholars to continue their work in understanding when and why people forgive with greater precision.

References

References marked with an asterisk indicate studies included in the meta-analysis

*[1]Afifi, W. S., Falato, W. L., & Weiner, J. L. (2001). Identity concerns following a severe relational transgression: The role of discovery method for the relational outcomes of infidelity. *Journal of Social and Personal Relationships, 18*(2), 291-308. doi:http://dx.doi.org/10.1177/0265407501182007

Akhtar, S., & Barlow, J. (2016). Forgiveness Therapy for the Promotion of Mental Well-Being: A Systematic Review and Meta-Analysis. *Trauma Violence Abuse*. doi:10.1177/1524838016637079

*[2]Allemand, M., Amberg, I., Zimprich, D., & Fincham, F. D. (2007). The role of trait forgiveness and relationship satisfaction in episodic forgiveness. *Journal of Social and Clinical Psychology, 26*(2), 199-217. doi:10.1521/jscp.2007.26.2.199

Ashy, M., Mercurio, A. E., & Malley-Morrison, K. (2010). Apology, forgiveness, and reconciliation: an ecological world view framework. *Individual Differences Research, 8*(1), 17-26.

*[3]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. doi:10.1037/0021-9010.91.3.653

Aquino, K., Tripp, T. M., & Bies, R. J. (2001). How Employees Respond to Personal Offense: The Effects of Blame Attribution, Victim Status, and Offender Status on Revenge and Reconciliation in the Workplace. *Journal of Applied Psychology, 86*(1), 52-59. doi:10.1037/0021-9010.86.1.52

*[4]Ayoko, O. B. (2016). Workplace conflict and willingness to cooperate: The importance of apology and forgiveness. *International Journal of Conflict Management, 27*(2), 172-198. doi:10.1108/IJCMA-12-2014-0092

*[5]Barnes, C. D., Carvallo, M., Brown, R. P., & Osterman, L. (2010). Forgiveness and the need to belong. *Personality and Social Psychology Bulletin, 36*(9), 1148-1160. doi:10.1177/0146167210378852

*[6]Basford, T. E., Offermann, L. R., & Behrend, T. S. (2014). Please Accept My Sincerest

Apologies: Examining Follower Reactions to Leader Apology. *Journal of Business Ethics, 119*(1), 99-117. doi:10.1007/s10551-012-1613-y

Batson, C. D. (1990). How Social an Animal? The Human Capacity for Caring. *American Psychologist, 45*(3), 336-346. doi:10.1037/0003-066X.45.3.336

*[7] Beattie, L., & Griffin, B. (2014). Accounting for within-person differences in how people respond to daily incivility at work. *Journal of Occupational and Organizational Psychology, 87*(3), 625-644. doi:10.1111/joop.12067

*[8] Beck, A. R., Ruhlmann, L. M., Durtschi, J. A., & Brown, C. C. (2017). Can't Shake It Off? Attachment Moderates the Link Between Hostility and Forgiveness. *American Journal of Family Therapy, 45*(5), 250-263. doi:10.1080/01926187.2017.1365664

*[9] Beckenbach, J., Patrick, S., & Sells, J. (2010). Relationship Conflict and Restoration Model: A Preliminary Exploration of Concepts and Therapeutic Utility. *Contemporary Family Therapy, 32*(3), 290-301. doi:10.1007/s10591-010-9117-3

*[10] Bell, C. A., & Fincham, F. D. (2017). Humility, Forgiveness, and Emerging Adult Female Romantic Relationships. *Journal of Marital and Family Therapy*. doi:10.1111/jmft.12292

*[11] Berndsen, M., Wenzel, M., Thomas, E. F., & Noske, B. (2018). I feel you feel what I feel: Perceived perspective-taking promotes victims' conciliatory attitudes because of inferred emotions in the offender. *European Journal of Social Psychology, 48*(2), O103-O120. doi:10.1002/ejsp.2321

*[12] Blatt, L. J., & Wertheim, E. H. (2015). Development of the Factors Related to Forgiveness Inventory (FRFI) assessing social-cognitive facilitators and inhibitors of interpersonal forgiveness. *European Journal of Psychological Assessment, 31*(2), 100-108. doi:10.1027/1015-5759/a000211

*[13] Bobocel, D. (2013). Coping with unfair events constructively or destructively: The effects of overall justice and self-other orientation. *Journal of Applied Psychology, 98*(5), 720-731. doi:http://dx.doi.org/10.1037/a0032857

*[14] Bonach, K. (2009). Empirical support for the application of the forgiveness intervention model to postdivorce coparenting. *Journal of Divorce and Remarriage, 50*(1), 38-54. doi:10.1080/10502550802365631

*[15] Bonach, K., & Sales, E. (2002). Forgiveness as a mediator between post divorce cognitive processes and coparenting quality. *Journal of Divorce and Remarriage, 38*(1-2), 17-38.

doi:10.1300/J087v38n01_02

* [16] Bonach, K., Sales, E., & Koeske, G. (2005). Gender differences in perceptions of coparenting quality among expartners. *Journal of Divorce and Remarriage, 43*(1-2), 1-28. doi:10.1300/J087v43n01_01

Borenstein, M., Hedges, L. V., & Higgins, J. P. T. (2009). *Introduction to meta-analysis*. Chichester, West Sussex, U.K. Hoboken: John Wiley & Sons.

Borenstein, M., Hedges, L. V., Higgins, J. P. T., & Rothstein, H. R. (2010). A basic introduction to fixed-effect and random-effects models for meta-analysis. *Research Synthesis Methods, 1*(2), 97-111. doi:10.1002/jrsm.12

*[17] Bradfield, M., & Aquino, K. (1999). The effects of blame attributions and offender likableness on forgiveness and revenge in the workplace. *Journal of Management, 25*(5), 607-631. doi:10.1177/014920639902500501

*[18] Burnette, J. L., & Franiuk, R. (2010). Individual differences in implicit theories of relationships and partner fit: Predicting forgiveness in developing relationships. *Personality and Individual Differences, 48*(2), 144-148. doi:10.1016/j.paid.2009.09.011

*[19] Burnette, J. L., McCullough, M. E., Van Tongeren, D. R., & Davis, D. E. (2012). Forgiveness results from integrating information about relationship value and exploitation risk. *Personality and Social Psychology Bulletin, 38*(3), 345-356. doi:10.1177/0146167211424582

Burnette, J. L., Davisson, E. K., Finkel, E. J., Van Tongeren, D. R., Hui, C. M., & Hoyle, R. H. (2014). Self-control and forgiveness: A meta-analytic review. *Social Psychological and Personality Science, 5*(4), 443-450. doi:http://dx.doi.org/10.1177/1948550613502991

*[20] Chan, M. E., & Arvey, R. (2011). The role of forgivingness and anger in unfair events. *Personality and Individual Differences, 50*(5), 700-705. doi:10.1016/j.paid.2010.12.021

*[21] Christensen, K. J., Padilla-Walker, L. M., Busby, D. M., Hardy, S. A., & Day, R. D. (2011). Relational and social-cognitive correlates of early adolescents' forgiveness of parents. *Journal of Adolescent Health, 34*(5), 903-913. doi:10.1016/j.adolescence.2011.01.001

Cochran, W. G. (1954). The Combination of Estimates from Different Experiments. *Biometrics, 10*(1), 101-129. doi:10.2307/3001666

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed. ed.). Hillsdale, N.J: L. Erlbaum Associates.

Comprehensive Meta-Analysis Version 3, Borenstein, M., Hedges, L., Higgins, J., & Rothstein, H.Biostat, Englewood, NJ 2013

*[22] Cornick, C., Schultz, J. M., Tallman, B., & Altmaier, E. M. (2011). Forgiving significant interpersonal offenses: The role of victim/offender racial similarity. *Psychology, 2*(9), 936-940. doi:http://dx.doi.org/10.4236/psych.2011.29141

*[23] Crossley, C. D. (2009). Emotional and behavioral reactions to social undermining: A closer look at perceived offender motives. *Organizational Behavior and Human Decision Processes, 108*(1), 14-24. doi:10.1016/j.obhdp.2008.06.001

*[24] Crowley, J. P., Denes, A., Makos, S., & Whitt, J. (2018). The Longitudinal Effects of Expressive Writing on Victims of Relational Transgressions. *Journal of Health Communication*, 1-13. doi:10.1080/10410236.2018.1431017

Cumming, G. (2012). *Understanding the new statistics : effect sizes, confidence intervals, and meta-analysis*. New York: Routledge.

*[25] Davidson, M. M., Lozano, N. M., Cole, B. P., & Gervais, S. J. (2013). Associations between women's experiences of sexual violence and forgiveness. *Violence and Victims, 28*(6), 1041-1053. doi:10.1891/0886-6708.28.6.1041

*[26] Davidson, M. M., Lozano, N. M., Cole, B. P., & Gervais, S. J. (2015). Relations Between Intimate Partner Violence and Forgiveness Among College Women. *Journal of Interpersonal Violence, 30*(18), 3217-3243. doi:10.1177/0886260514555008

*[27] De Caporale-Ryan, L. N., Steffen, A. M., Marwit, S. J., & Meuser, T. M. (2013). Extension of the Enright Forgiveness Inventory to Middle-Aged and Older Wives. *Journal of Religion, Spirituality and Aging, 25*(4), 344-357. doi:10.1080/15528030.2013.789462

*[28] De Caporale-Ryan, L. N., Steffen, A. M., Marwit, S. J., & Meuser, T. M. (2016). Dementia spousal caregivers and past transgressions: Measuring and understanding forgiveness experiences. *Journal of Women and Aging, 28*(6), 510-520. doi:10.1080/08952841.2015.1065143

*[29] Dillow, M. R., Malachowski, C. C., Brann, M., & Weber, K. D. (2011). An Experimental Examination of the Effects of Communicative Infidelity Motives on Communication and Relational Outcomes in Romantic Relationships. *Western Journal of Communication, 75*(5), 473-499. doi:10.1080/10570314.2011.588986

*[30] Donnoli, M., & Wertheim, E. H. (2012). Do offender and victim typical conflict styles affect

forgiveness? *International Journal of Conflict Management, 23*(1), 57-76.
doi:10.1108/10444061211199296

*[31]Donovan, L. A. N., & Priester, J. R. (2017). Exploring the psychological processes underlying interpersonal forgiveness: The superiority of motivated reasoning over empathy. *Journal of Experimental Social Psychology, 71*, 16-30. doi:10.1016/j.jesp.2017.02.005

*[32] Eaton, J., Struthers, C., & Santelli, A. G. (2006). The Mediating Role of Perceptual Validation in the Repentance-Forgiveness Process. *Personality and Social Psychology Bulletin, 32*(10), 1389-1401. doi:http://dx.doi.org/10.1177/0146167206291005

Enright, R. D., & Rique, J. (2004). The Enright Forgiveness Inventory: Sampler set, manual, instrument, and scoring guide.

*[33] Edwards, T., Pask, E. B., Whitbred, R., & Neuendorf, K. A. (2018). The influence of personal, relational, and contextual factors on forgiveness communication following transgressions. *Personal Relationships, 25*(1), 4-21. doi:10.1111/pere.12224

*[34] Exline, J. J., Baumeister, R. F., Zell, A. L., Kraft, A. J., & Witvliet, C. V. O. (2008). Not So Innocent: Does Seeing One's Own Capability for Wrongdoing Predict Forgiveness? *Journal of Personality and Social Psychology, 94*(3), 495-515. doi:10.1037/0022-3514.94.3.495

*[35] Farrell, J. E., Hook, J. N., Ramos, M., Davis, D. E., Van Tongeren, D. R., & Ruiz, J. M. (2015). Humility and relationship outcomes in couples: The mediating role of commitment. *Couple and Family Psychology: Research and Practice, 4*(1), 14-26. doi:http://dx.doi.org/10.1037/cfp0000033

*[36] Fatfouta, R., Schröder-Abé, M., & Merkl, A. (2014). Forgiving, fast and slow: Validity of the implicit association test for predicting differential response latencies in a transgression-recall paradigm. *Frontiers in Psychology, 5*(JUL). doi:10.3389/fpsyg.2014.00728

Fehr, R., Gelfand, M. J., & Nag, M. (2010). The road to forgiveness: A meta-analytic synthesis of its situational and dispositional correlates. *Psychological Bulletin, 136*(5), 894-914. doi:10.1037/a0019993

Fincham, F. D. (2000). The kiss of the porcupines: From attributing responsibility to forgiving. *Personal Relationships, 7*(1), 1-23.

*[37] Fincham, F., & Beach, S. R. H. (2007). Forgiveness and marital quality: Precursor or consequence in well-established relationships? *Journal of Positive Psychology, 2*(4), 260-

268. doi:10.1080/17439760701552360

Fincham, F. D., Beach, S. R. H., & Davila, J. (2004). Forgiveness and conflict resolution in marriage. *Journal of Family Psychology, 18*(1), 72-81. doi:10.1037/0893-3200.18.1.72

*[38] Fincham, F. D., Jackson, H., & Beach, S. R. H. (2005). Transgression severity and forgiveness: Different moderators for objective and subjective severity. *Journal of Social and Clinical Psychology, 24*(6), 860-875. doi:10.1521/jscp.2005.24.6.860

*[39] Fincham, F. D., Paleari, F., & Regalia, C. (2002). Forgiveness in marriage: The role of relationship quality, attributions, and empathy. *Personal Relationships, 9*(1), 27-37. doi:http://dx.doi.org/10.1111/1475-6811.00002

*[40] Finkel, E. J., Burnette, J. L., & Scissors, L. E. (2007). Vengefully ever after: Destiny beliefs, state attachment anxiety, and forgiveness. *Journal of Personality and Social Psychology, 92*(5), 871-886. doi:10.1037/0022-3514.92.5.871

Finkel, E. J., Rusbult, C. E., Kumashiro, M., & Hannon, P. A. (2002). Dealing with betrayal in close relationships: does commitment promote forgiveness? *Journal of Personality and Social Psychology, 82*(6), 956-974.

Fu, R., Gartlehner, G., Grant, M., Shamliyan, T., Sedrakyan, A., Wilt, T. J., . . . Trikalinos, T. A. (2011). Conducting quantitative synthesis when comparing medical interventions: AHRQ and the Effective Health Care Program. *Journal of Clinical Epidemiology, 64*(11), 1187-1197. doi:10.1016/j.jclinepi.2010.08.010

*[41] Furman, C. R., Luo, S., & Pond, R. S., Jr. (2017). A perfect blame: Conflict-promoting attributions mediate the association between perfectionism and forgiveness in romantic relationships. *Personality and Individual Differences, 111*, 178-186. doi:10.1016/j.paid.2017.01.052

*[42] Gerlach, T. M., Allemand, M., Agroskin, D., & Denissen, J. J. A. (2012). Justice Sensitivity and Forgiveness in Close Interpersonal Relationships: The Mediating Role of Mistrustful, Legitimizing, and Pro-Relationship Cognitions. *Journal of Personality and Social Psychology, 80*(5), 1373-1413. doi:10.1111/j.1467-6494.2012.00762.x

*[43] Gordon, K. C., Hughes, F. M., Tomcik, N. D., Dixon, L. J., & Litzinger, S. C. (2009). Widening spheres of impact: the role of forgiveness in marital and family functioning. *Journal of Family Psychology, 23*(1), 1-13. doi:10.1037/a0014354

*[44] Guerrero, L. K., & Bachman, G. F. (2010). Forgiveness and forgiving communication in

dating relationships: An expectancy-investment explanation. *Journal of Social and Personal Relationships, 27*(6), 801-823. doi:10.1177/0265407510373258

*[45] Hadden, B. W., Baker, Z. G., & Knee, C. R. (2017). Let it go: Relationship autonomy predicts pro-relationship responses to partner transgressions. *J Pers*. doi:10.1111/jopy.12362

*[46] Hall, J. H., & Fincham, F. D. (2006). Relationship dissolution following infidelity: The roles of attributions and forgiveness. *Journal of Social and Clinical Psychology, 25*(5), 508-522. doi:10.1521/jscp.2006.25.5.508

*[47] Hannon, P. A., Rusbult, C. E., Finkel, E. J., & Kamashiro, M. (2010). In the wake of betrayal: Amends, forgiveness, and the resolution of betrayal. *Personal Relationships, 17*(2), 253-278. doi:10.1111/j.1475-6811.2010.01275.x

*[48] Hantman, S., & Cohen, O. (2010). Forgiveness in late life. *Journal of Gerontological Social Work, 53*(7), 613-630. doi:10.1080/01634372.2010.509751

Higgins, J. P. T., Thompson, S. G., Deeks, J. J., & Altman, D. G. (2003). Measuring inconsistency in meta-analyses. *BMJ, 327*(7414), 557. doi:10.1136/bmj.327.7414.557

*[49] Hook, J. N., Ramos, M. J., Worthington, E. L., Jr., Utsey, S. O., Coy, A. E., Davis, D. E., . . . Dueck, A. (2015). Negative internal causal attributions of a specific offense and forgiveness. *Personal Relationships, 22*(3), 449-459. doi:10.1111/pere.12089

Huedo-Medina, T. B., Sanchez-Meca, J., Marin-Martinez, F., & Botella, J. (2006). Assessing Heterogeneity in Meta-Analysis: Q Statistic or I[squared] Index? *Psychological Methods, 11*(2), 193-206. doi:10.1037/1082-989X.11.2.193

*[50] Johnson, H. D., Wernli, M. A., & LaVoie, J. C. (2013). Situational, interpersonal, and intrapersonal characteristic associations with adolescent conflict forgiveness. *Journal of Genetic Psychology, 174*(3), 291-315. doi:10.1080/00221325.2012.670672

*[51] Kachadourian, L. K., Fincham, F., & Davila, J. (2005). Attitudinal ambivalence, rumination, and forgiveness of partner transgressions in marriage. *Personality and Social Psychology Bulletin, 31*(3), 334-342. doi:10.1177/0146167204271595

*[52] Karremans, J. C., Regalia, C., Paleari, F. G., Fincham, F. D., Cui, M., Takada, N., . . . Uskul, A. K. (2011). Maintaining harmony across the globe: The cross-cultural association between closeness and interpersonal forgiveness. *Social Psychological and Personality Science, 2*(5), 443-451. doi:10.1177/1948550610396957

*[53] Karremans, J. C., & Smith, P. K. (2010). Having the power to forgive: When the experience

of power increases interpersonal forgiveness. *Personality and Social Psychology Bulletin, 36*(8), 1010-1023. doi:10.1177/0146167210376761

*[54] Karremans, J. C., & Van Lange, P. A. (2004). Back to caring after being hurt: The role of forgiveness. *European Journal of Social Psychology, 34*(2), 207-227. doi:http://dx.doi.org/10.1002/ejsp.192

*[55] Kato, T. (2016). Effects of partner forgiveness on romantic break-ups in dating relationships: A longitudinal study. *Personality and Individual Differences, 95*, 185-189. doi:10.1016/j.paid.2016.02.050

*[56] Kearns, J. N., & Fincham, F. D. (2005). Victim and perpetrator accounts of interpersonal transgressions: self-serving or relationship-serving biases? *Personality and Social Psychology Bull, 31*(3), 321-333. doi:10.1177/0146167204271594

Kelley, H., & Thibaut, J. W. (1978). *Interpersonal relations : a theory of interdependence*. New York: Wiley.

*[57] Kimmes, J. G., & Durtschi, J. A. (2016). Forgiveness in Romantic Relationships: The Roles of Attachment, Empathy, and Attributions. *Journal of Marital Family Therapy, 42*(4), 645-658. doi:10.1111/jmft.12171

*[58] Kluwer, E. S., & Karremans, J. C. (2009). Unforgiving motivations following infidelity: Should we make peace with our past. *Journal of Social and Clinical Psychology, 28*(10), 1298-1325. doi:http://dx.doi.org/10.1521/jscp.2009.28.10.1298

Knight, G. P., Fabes, R. A., & Higgins, D. A. (1996). Concerns About Drawing Causal Inferences From Meta-Analyses: An Example in the Study of Gender Differences in Aggression. *Psychological Bulletin, 119*(3), 410-421. doi:10.1037/0033-2909.119.3.410

*[59] Komiya, A., Ohtsubo, Y., Oishi, S., & Mifune, N. (2017). Providing compensation promotes forgiveness for replaceable, but not irreplaceable, losses. *Journal of Social Psychology*, 1-14. doi:10.1080/00224545.2017.1395792

*[60] Koutsos, P., Wertheim, E. H., & Kornblum, J. (2008). Paths to interpersonal forgiveness: The roles of personality, disposition to forgive and contextual factors in predicting forgiveness. *Personality and Individual Differences, 44*(2), 337-348. doi:http://dx.doi.org/10.1016/j.paid.2007.08.011

*[61] Kurniati, N. M. T., Worthington, E. L., Poerwandari, E. K., Ginanjar, A. S., & Dwiwardani, C. (2017). Forgiveness in Javanese collective culture: The relationship between rumination,

harmonious value, decisional forgiveness and emotional forgiveness. *Asian Journal of Social Psychology, 20*(2), 113-127. doi:http://dx.doi.org/10.1111/ajsp.12173

*[62] Lawler, K. A., Younger, J. W., Piferi, R. L., Billington, E., Jobe, R., Edmondson, K., & Jones, W. H. (2003). A change of heart: cardiovascular correlates of forgiveness in response to interpersonal conflict. *Journal of Behavioural Medicine, 26*(5), 373-393.

Lichtenfeld, S., Buechner, V. L., Maier, M. A., & Fernández-Capo, M. (2015). Forgive and forget: Differences between decisional and emotional forgiveness. *PLoS One, 10*(5). doi:10.1371/journal.pone.0125561

Lipsey, M. W., & Wilson, D. B. (2001). *Practical meta-analysis*. Thousand Oaks, Calif.: Sage Publications.

*[63] Malachowski, C. C., & Frisby, B. N. (2015). The Aftermath of Hurtful Events: Cognitive, Communicative, and Relational Outcomes. *Communication Quarterly, 63*(2), 187-203. doi:10.1080/01463373.2015.1012218

*[64] May, L. N., & Jones, W. H. (2007). Does hurt linger? Exploring the nature of hurt feelings over time. *Current Psychology, 25*(4), 245-256.

McCullough, M. E. (2008). *Beyond revenge : the evolution of the forgiveness instinct* (1st ed. ed.). San Francisco, CA: Jossey-Bass.

*[65] McCullough, M. E., Fincham, F. D., & Tsang, J. A. (2003). Forgiveness, forbearance, and time: the temporal unfolding of transgression-related interpersonal motivations. *Journal of Personality and Social Psychology, 84*(3), 540-557.

*[66] McCullough, M. E., Luna, L. R., Berry, J. W., Tabak, B. A., & Bono, G. (2010). On the form and function of forgiving: modelling the time-forgiveness relationship and testing the valuable relationships hypothesis. *Emotion, 10*(3), 358-376. doi:10.1037/a0019349

McCullough, M. E., Rachal, K. C., & Worthington, E. L. (1997). Interpersonal Forgiving in Close Relationships. *Journal of Personality and Social Psychology, 73*(2), 321-336.

*[67] McCullough, M. E., Rachal, K. C., Sandage, S. J., Worthington, E. L., Brown, S. W., & Hight, T. L. (1998). Interpersonal forgiving in close relationships: II. Theoretical elaboration and measurement. *J Pers Soc Psychol, 75*(6), 1586-1603.

McCullough, M. E., Thoresen, C. E., & Pargament, K. I. (2000). *Forgiveness : theory, research, and practice*. New York: Guilford Press.

*[68] Merolla, A. J., & Zhang, S. (2011). In the wake of transgressions: Examining forgiveness

communication in personal relationships. *Personal Relationships, 18*(1), 79-95. doi:10.1111/j.1475-6811.2010.01323.x

*[69] Merolla, A. J., Zhang, S., & Sun, S. (2013). Forgiveness in the United States and China: Antecedents, Consequences, and Communication Style Comparisons. *Communication Research, 40*(5), 595-622. doi:10.1177/0093650212446960

*[70] Miller, A. J., & Worthington, E. L. (2010). Sex differences in forgiveness and mental health in recently married couples. *Journal of Positive Psychology, 5*(1), 12-23. doi:10.1080/17439760903271140

Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. Open Medicine: A Peer-Reviewed, Independent, Open-Access Journal, 3, e123. https://dx.doi.org/10.1371/journal.pmed.1000097

*[71] Mok, A., & De Cremer, D. (2015). Overlooking interpersonal hurt: A global processing style influences forgiveness in work relationships. *European Journal of Work and Organizational Psychology, 24*(2), 267-278. doi:10.1080/1359432X.2014.892872

*[72] Molden, D. C., & Finkel, E. J. (2010). Motivations for promotion and prevention and the role of trust and commitment in interpersonal forgiveness. *Journal of Experimental Social Psychology, 46*(2), 255-268. doi:10.1016/j.jesp.2009.10.014

*[73] Morse, C. R., & Metts, S. (2011). Situational and communicative predictors of forgiveness following a relational transgression. *Western Journal of Communication, 75*(3), 239-258. doi:10.1080/10570314.2011.571652

*[74] Orcutt, H. K. (2006). The prospective relationship of interpersonal forgiveness and psychological distress symptoms among college women. *Journal of Counselling Psychology, 53*(3), 350-361. doi:10.1037/0022-0167.53.3.350

Orwin, R. G. (1983). A Fail-Safe N for Effect Size in Meta-Analysis. *Journal of Educational Statistics, 8*(2), 157-159. doi:10.2307/1164923

*[75] Paleari, F., Regalia, C., & Fincham, F. D. (2003). Adolescents' willingness to forgive their parents: An empirical model. *Parenting: Science and Practice, 3*(2), 155-174. doi:http://dx.doi.org/10.1207/S15327922PAR0302_03

*[76] Paleari, F., Regalia, C., & Fincham, F. D. (2009). Measuring offence-specific forgiveness in marriage: The Marital Offence-Specific Forgiveness Scale (MOFS). *Psychology*

Assessment, 21(2), 194-209. doi:http://dx.doi.org/10.1037/a0016068

*[77] Paleari, F., Regalia, C., & Fincham, F. D. (2010). Forgiveness and conflict resolution in close relationships: Within and cross partner effects. *Universitas Psychologica, 9*(1), 35-56.

*[78] Paleari, F. G., Regalia, C., & Fincham, F. (2005). Marital quality, forgiveness, empathy, and rumination: a longitudinal analysis. *Personality of Social Psychology Bulletin, 31*(3), 368-378. doi:10.1177/0146167204271597

*[79] Paleari, F. G., Regalia, C., & Fincham, F. D. (2011). Inequity in forgiveness: Implications for personal and relational well-being. *Journal of Social and Clinical Psychology, 30*(3), 297-324. doi:10.1521/jscp.2011.30.3.297

*[80] Peets, K., Hodges, E. V. E., & Salmivalli, C. (2013). Forgiveness and its determinants depending on the interpersonal context of hurt. *Journal of Experimental Child Psychology, 114*(1), 131-145. doi:10.1016/j.jecp.2012.05.009

*[81] Pelucchi, S., Paleari, F. G., Regalia, C., & Fincham, F. D. (2015). Self-forgiveness in romantic relationships: 2. Impact on interpersonal forgiveness. *Family Science, 6*(1), 181-190. doi:10.1080/19424620.2015.1082048

*[82] Pronk, T. M., Karremans, J. C., Overbeek, G., Vermulst, A. A., & Wigboldus, D. H. J. (2010). What It Takes to Forgive: When and Why Executive Functioning Facilitates Forgiveness. *Journal of Personality and Social Psychology, 98*(1), 119-131. doi:10.1037/a0017875

Riek, B. M., & Mania, E. W. (2012). The antecedents and consequences of interpersonal forgiveness: A meta-analytic review. *Personal Relationships, 19*(2), 304-325. doi:10.1111/j.1475-6811.2011.01363.x

Rosenthal, R. (1995). Writing Meta-Analytic Reviews. *Psychological Bulletin, 118*(2), 183-192. doi:10.1037/0033-2909.118.2.183

Rubio-Aparicio, M., Sánchez-Meca, J., López-López, J. A., Botella, J., & Marín-Martínez, F. (2017). Analysis of categorical moderators in mixed-effects meta-analysis: Consequences of using pooled versus separate estimates of the residual between-studies variances. *British Journal of Mathematical and Statistical Psychology, 70*(3), 439-456.

Rusbult, C. E., Verette, J., Whitney, G. A., Slovik, L. F., & Lipkus, I. (1991). Accommodation Processes in Close Relationships: Theory and Preliminary Empirical Evidence. *Journal of Personality and Social Psychology, 60*(1), 53-78. doi:10.1037/0022-3514.60.1.53

Rye, M., Loiacono, D., Folck, C., Olszewski, B., Heim, T., & Madia, B. (2001). Evaluation of the psychometric properties of two forgiveness scales. *A Journal for Diverse Perspectives on Diverse Psychological Issues, 20*(3), 260-277. doi:10.1007/s12144-001-1011-6 doi:10.1111/bmsp.12092

Sedgwick, P. (2013). The importance of statistical power. *BMJ-British Medical Journal, 347*(oct23 1). doi:10.1136/bmj.f6441

*[83] Sheldon, P., Gilchrist-Petty, E., & Lessley, J. A. (2014). You Did What? The Relationship Between Forgiveness Tendency, Communication of Forgiveness, and Relationship Satisfaction in Married and Dating Couples. *Communication Reports, 27*(2), 78-90. doi:10.1080/08934215.2014.902486

*[84] Stackhouse, M. R., Ross, R. J., & Boon, S. D. (2016). The devil in the details: Individual differences in unforgiveness and health correlates. *Personality and Individual Differences, 94*, 337-341. doi:http://dx.doi.org/10.1016/j.paid.2016.02.005

*[85] Strelan, P., Karremans, J. C., & Krieg, J. (2017). What determines forgiveness in close relationships? The role of post-transgression trust. *British Journal of Social Psychology, 56*(1), 161-180. doi:10.1111/bjso.12173

*[86] Strelan, P., McKee, I., Calic, D., Cook, L., & Shaw, L. (2013). For whom do we forgive? A functional analysis of forgiveness. *Personal Relationships, 20*(1), 124-139. doi:10.1111/j.1475-6811.2012.01400.x

*[87] Strelan, P., & Sutton, R. M. (2011). When just-world beliefs promote and when they inhibit forgiveness. *Personality and Individual Differences, 50*(2), 163-168. doi:10.1016/j.paid.2010.09.019

*[88] Strelan, P., & Van Prooijen, J.-W. (2016). Tough love: The behavior control justice motive facilitates forgiveness in valued relationships. *Personal Relationships, 23*(3), 536-553. doi:http://dx.doi.org/10.1111/pere.12142

*[89] Struthers, C., Eaton, J., Mendoza, R., Santelli, A. G., & Shirvani, N. (2010). Interrelationship among injured parties' attributions of responsibility, appraisal of appropriateness to forgive the transgressor, forgiveness, and repentance. *Journal of Applied Social Psychology, 40*(4), 970-1002. doi:http://dx.doi.org/10.1111/j.1559-1816.2010.00607.x

Tabak, B. A., & McCullough, M. E. (2011). Perceived transgressor agreeableness decreases cortisol response and increases forgiveness following recent interpersonal transgressions. *Biological Psychology, 87*(3), 386-392. doi:10.1016/j.biopsycho.2011.05.001

*[90] Takada, N., & Ohbuchi, K. I. (2004). Why Do We Forgive Offenders? Egocentric, Altruistic, and Normative Motives for Interpersonal Forgiveness. *Tohoku Psychologica Folia, 63*, 95-102.

*[91] Takada, N., & Ohbuchi, K. I. (2013). True and hollow forgiveness, forgiveness motives, and conflict resolution. *International Journal of Conflict Management, 24*(2), 184-200. doi:10.1108/10444061311316799

*[92] Toussaint, L., & Jorgensen, K. M. (2008). Inter-parental conflict, parent-child relationship quality, and adjustment in Christian adolescents: Forgiveness as a mediating variable. *Journal of Psychology and Christianity, 27*(4), 337-346.

*[93] Toussaint, L., Worthington, E. L., Jr., Van Tongeren, D. R., Hook, J., Berry, J. W., Shivy, V. A., . . . Davis, D. E. (2018). Forgiveness Working: Forgiveness, Health, and Productivity in the Workplace. *American Journal of Health Promotion, 32*(1), 59-67. doi:10.1177/0890117116662312

Tsang, J. A., McCullough, M. E., & Fincham, F. D. (2006). The longitudinal association between forgiveness and relationship closeness and commitment. *Journal of Social and Clinical Psychology, 25*(4), 448-472. doi:10.1521/jscp.2006.25.4.448

*[94] Vallade, J. I., Martin, M. M., & Vela, L. E. (2015). An Investigation of Students' Forgiveness, Instructional Dissent, and Learning in the College Classroom. *Western Journal of Communication, 79*(4), 389-412. doi:10.1080/10570314.2015.1068368

*[95] Vallade, J. I., & Myers, S. A. (2014). Student Forgiveness in the College Classroom: Perceived Instructor Misbehaviors as Relational Transgressions. *Communication Quarterly, 62*(3), 342-356. doi:10.1080/01463373.2014.911767

*[96] van der Wal, R. C., Karremans, J. C., & Cillessen, A. H. (2014). It Takes Two to Forgive: The Interactive Role of Relationship Value and Executive Control. *Personality of Social Psychology Bulletin, 40*(6), 803-815. doi:10.1177/0146167214525807

*[97] van der Wal, R. C., Karremans, J. C., & Cillessen, A. H. (2016). Interpersonal forgiveness and psychological well-being in late childhood. *Merrill-Palmer Quarterly, 62*(1), 1-21. doi:http://dx.doi.org/10.13110/merrpalmquar1982.62.1.0001

*[98] Van Tongeren, D. R., Green, J. D., Hook, J. N., Davis, D. E., Davis, J. L., & Ramos, M. (2015). Forgiveness Increases Meaning in Life. *Social Psychological and Personality Science, 6*(1), 47-55. doi:10.1177/1948550614541298

Wade, S. (1989). The development of a scale to measure forgiveness: ProQuest Dissertations Publishing.

*[99] Waldron, V. R., & Kelley, D. L. (2005). Forgiving communication as a response to relational transgressions. *Journal of Social and Personal Relationships, 22*(6), 723-742. doi:10.1177/0265407505056445

Wan, X., Wang, W., Liu, J., & Tong, T. (2014). Estimating the sample mean and standard deviation from the sample size, median, range and/or interquartile range. *BMC medical research methodology, 14*, 135. doi:10.1186/1471-2288-14-135

*[100]Wenzel, M., Turner, J. K., & Okimoto, T. G. (2010). Is Forgiveness an Outcome or Initiator of Sociocognitive Processes? Rumination, Empathy, and Cognitive Appraisals Following a Transgression. *Social Psychological and Personality Science, 1*(4), 369-377. doi:10.1177/1948550610376598

Wolf, F. M. (1986). *Meta-analysis : quantitative methods for research synthesis*. Beverly Hills: Sage Publications.

Worthington, E. L., Hook, J. N., Utsey, S. O., Williams, J. K., & Neil, R. L. (2007). Decisional and Emotional Forgiveness. Paper presented at the International Positive Psychology Summit. Washington, DC.

Worthington, E. L., Lavelock, C., vanOyen Witvliet, C., Rye, M. S., Tsang, J. A., & Toussaint, L. (2015). *Chapter 17 - Measures of Forgiveness: Self-Report, Physiological, Chemical, and Behavioral Indicators*: Elsevier Inc.

Worthington, E. L., Sharp, C. B., Lerner, A. J., & Sharp, J. R. (2006). Interpersonal forgiveness as an example of loving one's enemies. *Journal of Psychology and Theology,34*(1),32-42.

Worthington, E. L., & Wade, N. (1999). The Psychology of Unforgiveness and Forgiveness and Implications for Clinical Practice. *Journal of Social and Clinical Psychology, 18*(4), 385. doi:10.1521/jscp.1999.18.4.385

[101]* Yaben, S. Y. (2009). Forgiveness, Attachment, and Divorce. *Journal of Divorce and Remarriage, 50*(4), 282-294. doi:10.1080/10502550902775952

[102]* Yaben, S. Y. (2015). Forgiveness, Adjustment to Divorce and Support from the Former

Spouse in Spain. *Journal of Child and Family Studies, 24*(2), 289-297.

doi:10.1007/s10826-013-9835-x

[103*] Ysseldyk, R., & Wohl, M. J. A. (2012). I forgive therefore I'm committed; A longitudinal examination of commitment after a romantic relationship transgression. *Canadian Journal of Behavioural Science, 44*(4), 257-263. doi:10.1037/a0025463

Appendices

Appendix A.

PsycINFO, Scopus and PubMed Database Logic Grids

(a) PsycINFO Logic Grid

Transgression Severity	Relationship Quality	Forgiveness
deception.sh OR deceit*.ti,ab OR deception.ti,ab OR arguments.sh OR arguments.ti,ab OR dishonesty.sh OR dishonesty.ti,ab OR conflict.sh OR conflict*.ti,ab OR conflict severity.ti,ab OR severe conflict.ti,ab OR wrongdoing.ti,ab OR harm severity.ti,ab OR damag*.ti,ab OR betray*.ti,ab OR unfair* treat*.ti,ab OR injustice.ti,ab OR wrong* action*.ti,ab OR mistreat*.ti,ab OR offence*.ti,ab OR transgression related interpersonal.ti,ab OR transgress* sever*.ti,ab OR serious*.ti,ab OR intensity.ti,ab OR hurt severity.ti,ab OR hurt*.ti,ab OR transgress*.ti,ab OR interpersonal transgression.ti,ab OR argument.sh OR argument.ti,ab	relationship quality.sh OR relationship quality.ti,ab OR interpersonal compatibility.sh OR interpersonal compatibility.ti,ab OR relationship satisfaction.sh OR relationship satisfaction.ti,ab OR relationship investment.ti,ab OR relationship closeness.ti,ab OR relationship value.ti,ab OR relationship commitment.ti,ab OR reconciliation.ti,ab OR willingness to sacrifice.ti,ab OR intimacy.sh,ti,ab OR marital relations.sh OR marital relation*.ti,ab OR close relation*.ti,ab OR friendship.sh OR friendship*.ti,ab OR sibling relations.sh OR sibling relation*.ti,ab OR brother sister relations.sh OR brother sister relation*.ti,ab OR mother child relations.sh OR mother child relation*.ti,ab OR father child relations.sh OR father child relation*.ti,ab OR parent child relations.sh OR parent child relation*.ti,ab OR family relations.sh OR family relation*.ti,ab OR peer relations.sh OR peer relation*.ti,ab OR significant others.sh,ti,ab OR male female relations.sh OR male female relation*.ti,ab OR marital satisfaction.sh,ti,ab OR romance.sh,ti,ab OR love.sh,ti,ab OR affection.sh,ti,ab OR couples.sh,ti,ab OR spouses.sh,ti,ab	forgiveness.sh OR forg#v$.ti,ab OR pardon.ti,ab

(b) Scopus Logic Grid

Transgression Severity	Relationship Quality	Forgiveness
deception OR deceit OR dishonesty OR conflict* OR	"relationship quality" OR "relationship satisfaction" OR	forg?v* OR pardon

"conflict severity" OR "severe conflict" OR "hurt* action*" OR "wrongdoing" OR "harm severity" OR damag* OR betray* OR "unfair* treat*" OR injustice OR "wrong* action*" OR mistreat* OR offence* OR "transgression related interpersonal" OR "transgress* sever*" OR serious* OR intensity OR "hurt severity" OR hurt* OR transgress* OR "interpersonal transgression" OR argument*	"interpersonal compatibility" OR "relationship investment" OR "relationship closeness" OR "relationship value" OR "relationship commitment" OR reconciliation OR "willingness to sacrifice" OR "marital relation*" OR intimacy OR "close relation*" OR friend* OR "family relation*" OR "parent-child relation*" OR "father-child relation*" OR "mother-child relation*" OR "sibling relation*" OR spouse* OR marriage OR love OR affection OR "significant other" OR couples OR romance OR "marital satisfaction" OR "peer relation*" OR "male female relation*"

(c) PubMed Logic Grid

Transgression Severity	Relationship Quality	Forgiveness
"deception" [mh] OR deception [tiab] OR deceit* [tiab] OR dishonesty [tiab] OR conflict* [tiab] OR conflict severity [tiab] OR severe conflict [tiab] OR wrongdoing [tiab] OR harm severity [tiab] OR damag* [tiab] OR betray* [tiab] OR unfair* treat* [tiab] OR injustice [tiab] OR wrong* action* [tiab] OR mistreat* [tiab] OR offence* [tiab] OR transgression related interpersonal [tiab] OR transgress* sever* [tiab] OR serious* [tiab] OR intensity [tiab] OR hurt severity [tiab] OR hurt* [tiab] OR transgress*[tiab] OR interpersonal transgression [tiab] OR argument* [tiab]	relationship quality [tiab] OR relationship satisfaction [tiab] OR interpersonal compatibility [tiab] OR relationship investment [tiab] OR relationship closeness [tiab] OR relationship value [tiab] OR relationship commitment [tiab] OR reconciliation [tiab] OR willingness to sacrifice [tiab] OR intimacy [tiab] OR marital relation* [tiab] OR close relation* [tiab] OR friendship* [tiab] OR sibling relation* [tiab] OR brother sister relation* [tiab] OR "family relations" [mh] OR family relation* [tiab] OR "parent-child relations" [mh] OR parent-child relation* [tiab] OR "father-child relations" [mh] OR father-child relation* [tiab] OR mother-child relation* [tiab] OR "mother-child relations" [mh] OR "sibling relations" [mh] OR sibling relation* [tiab] OR "friends" [mh] OR friend* [tiab] OR "marriage" [mh] OR marriage [tiab] OR "spouses" [mh] OR spouse* [tiab] OR "love" [mh] OR love [tiab] OR affection [tiab] OR significant other [tiab] OR couple* [tiab] OR romance [tiab] OR marital satisfaction [tiab]	"forgiveness" [mh] OR forgiv* [tiab] OR pardon [tiab]

Appendix B.

Search terms and Boolean operators used to create database- specific logic grids

(a) Search strategy used to capture articles with transgression severity predicting forgiveness
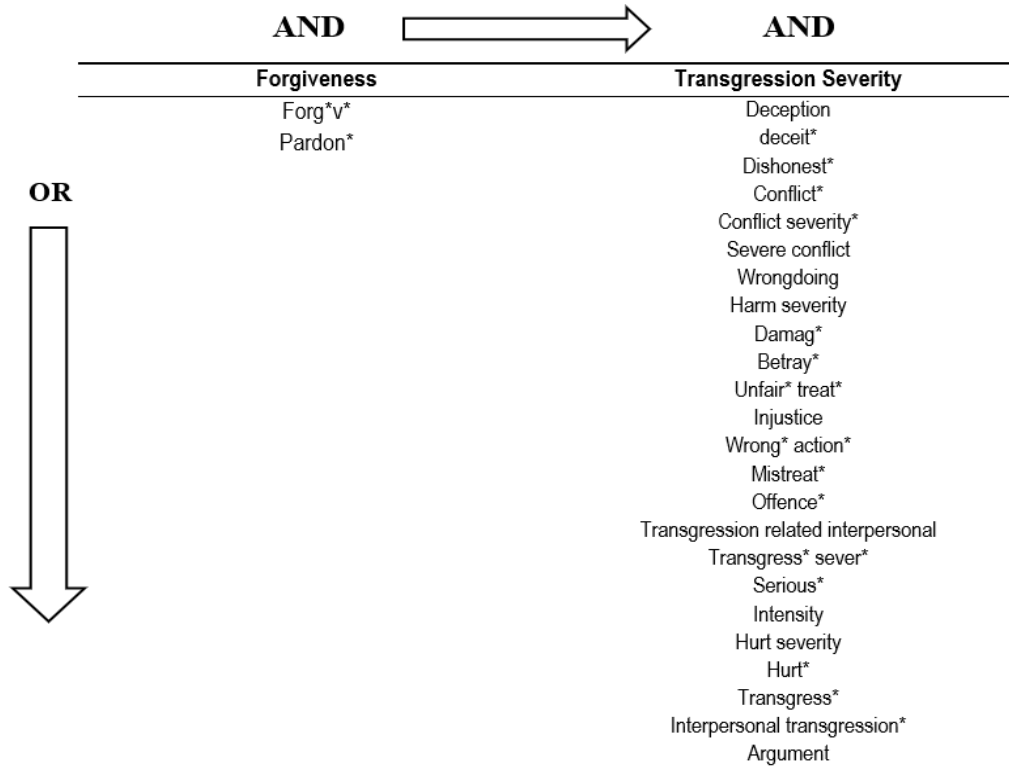
AND	AND
Forgiveness	**Transgression Severity**
Forg*v*	Deception
Pardon*	deceit*
	Dishonest*
	Conflict*
	Conflict severity*
	Severe conflict
	Wrongdoing
	Harm severity
	Damag*
	Betray*
	Unfair* treat*
	Injustice
	Wrong* action*
	Mistreat*
	Offence*
	Transgression related interpersonal
	Transgress* sever*
	Serious*
	Intensity
	Hurt severity
	Hurt*
	Transgress*
	Interpersonal transgression*
	Argument

OR

Note: Truncating terms with an asterisk results in variations of the term (including the plural forms) being included in the search.

(b) Search strategy used to capture articles with Relationship Quality predicting forgiveness

AND	AND
Forgiveness	**Relationship quality**
Forg*v*	Relationship quality
Pardon*	Interpersonal compatibility
	Relationship satisfaction
	Relationship invest*
	Relationship value
	Relationship commit*
	Reconcile*
	Relationship close*
	Willingness to sacrifice
	Intimacy
	Marital relation*
	Close relation*
	Friendship*
	Sibling relation*
	Brother sister relation*
	Mother child relation*
	Father child relation*
	Parent relation*
	Family relation*
	Peer relation*
	Significant other*
	Male female relation*
	Marital satisfaction*
	Romance
	Love
	Affection
	Couples

OR

Note: Truncating terms with an asterisk results in variations of the term (including the plural forms) being included in the search.

(c) Search strategy used to capture articles with Relationship Quality and Transgression Severity predicting forgiveness

AND ⟹ **AND** ⟹ **AND**

Forgiveness	Relationship Quality	Transgression Severity
Forg*v*	Relationship quality	Deception
Pardon*	Interpersonal compatibility	deceit*
	Relationship satisfaction	Dishonest*
	Relationship invest*	Conflict*
	Relationship value	Conflict severity*
	Relationship commit*	Severe conflict
	Reconcile*	Wrongdoing
	Relationship close*	Harm severity
	Willingness to sacrifice	Damag*
	Intimacy	Betray*
	Marital relation*	Unfair* treat*
	Close relation*	Injustice
	Friendship*	Wrong* action*
	Sibling relation*	Mistreat*
	Brother sister relation*	Offence*
	Mother child relation*	Transgression related
	Father child relation*	interpersonal
	Parent relation*	Transgress* sever*
	Family relation*	Serious*
	Peer relation*	Intensity
	Significant other*	Hurt severity
	Male female relation*	Hurt*
	Marital satisfaction*	Transgress*
	Romance	Interpersonal transgression*
	Love	Argument
	Affection	
	Couples	

OR ⬇

Note: Truncating terms with an asterisk results in variations of the term (including the plural forms) being included in the search.

Appendix C.

Summary details of the meta-analysed studies

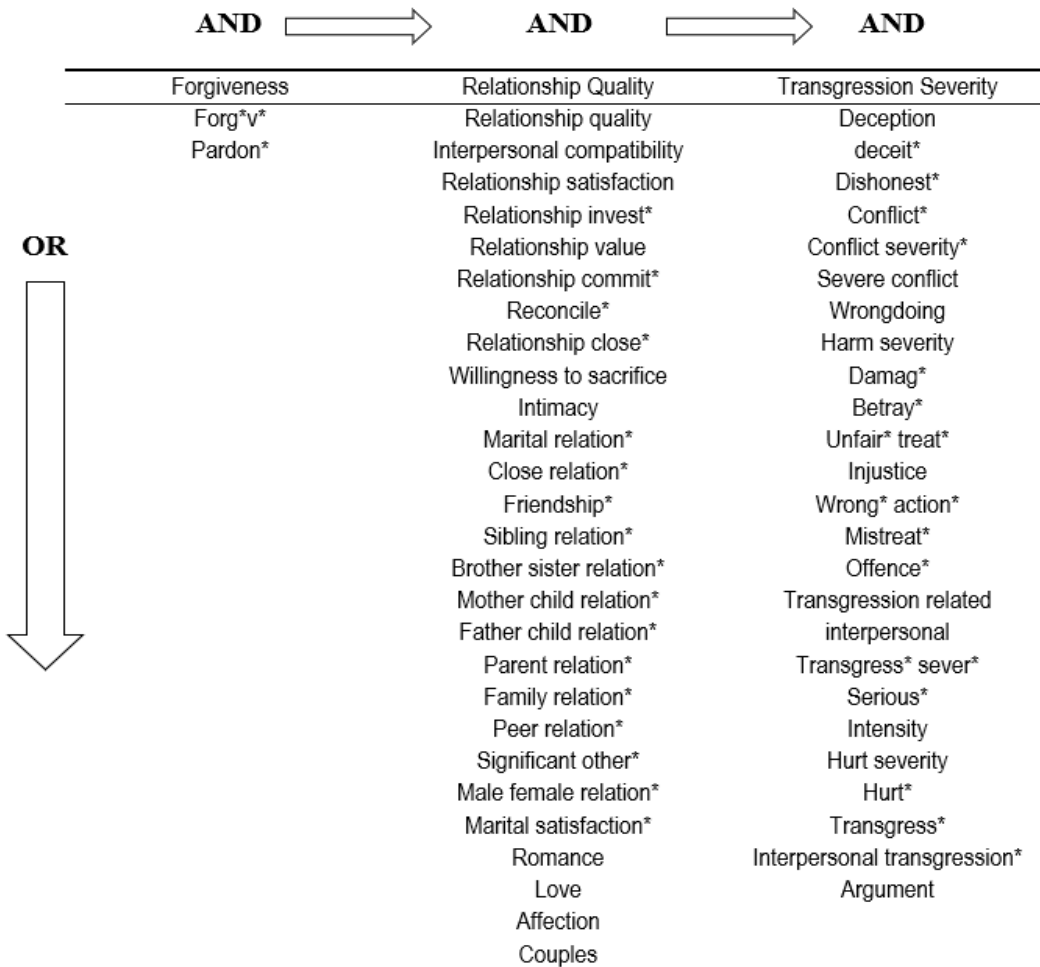| Publication details		Participant details												Forgiveness details			Transgression details			Study details			
Author	year	N	M age	Sex (F)	Sample	Ethnicity (N)						Origin	name	type	Predictor	Severity	offence type	offender	design	scenario	how measured TS	how measured RQ
						Caucasian	African American	Asian	Hispanic	Other	NA											
Affifi et al.	2001	98	20.00	42	Uni	83	0	9	0	5	1	USA	No name	Single	RQ	High	infidelity	intimate	Non-exp	both	Sub	Sub
Allemand et al.	2007	159	27.60	118	Uni	0	0	0	0	0	159	GER	EFI-ger	Intra	RQ	High	Infidelity/abuse	intimate	Non-exp	recall	Sub	Sub
Aquino et al.	2006	129	40.90	44	Gen com	28	86	7	1	7	0	USA	Aquino/no name	combo	TS	Med	Work-related	Work-col.	Non-exp	recall	Sub	Sub
Ayoko	2016	255	NA	222	Uni	130	20	100	0	5	0	AUS	Bachman	Single	Both	Low-med	Work-related	Work-col.	Non-exp	recall	Sub	Sub
Barnes et al.	2010	97	NA	65	Uni	0	0	0	0	0	97	USA	SFS	combo	Both	Med	NA	Variety	Non-exp	recall	Both	Sub
Basford et al.	2014	511	32.85	251	Online	223	29	196	15	34	14	USA	TRIM	Inter	both	NA	Work-related	Work- col.	Non-exp	recall	both	Sub
Beattie & Griffin	2014	130	42.84	46	Gen com	0	0	0	0	0	130	AUS	No name	Single	TS	Med	Work-related	Work-col.	Non-exp	recall	Sub	Sub
Beck et al.	2017	257	30.50	201	Uni	221	28	3	5	0	0	USA	MOFS	Inter	RQ	NA	NA	Intimate	Non-exp	recall	Sub	Sub
Beckenbach et al.	2010	10	35.00	5	Gen com	5	2	2	1	0	0	USA	IRRS	Inter	RQ	NA	NA	Intimate	Non-exp	recall	NA	Sub
Bell & Fincham	2017	152	19.70	NA	Uni	100	13	3	30	6	0	USA	ReFS	Inter	RQ	NA	NA	Intimate	Non-exp	recall	Sub	Sub
Berndsen et al.	2018	122	24.84	75	Uni/ Gen com	0	0	0	0	0	122	AUS	RFS	Intra	both	Med	Work-related	Work-col.	Non-exp	Hyp	Obj	Sub
Blatt & Wertheim	2015	415	21.40	326	Uni	0	0	0	0	0	415	AUS	TRIM-12/ RFS	combo	RQ	Low med high	variety	Intimate/ friend	Non-exp	recall	Sub	Sub
Bobocel	2013	153	42.20	78	online	0	0	0	0	0	78	USA	TRIM	Inter	TS	med	Trust-betrayal	Work-col.	Non-exp	recall	Sub	Sub
Bonach et al.	2002-9	135	35.00	81	Gen com	134	1	0	0	0	0	USA	Bonach scales	combo	both	Med-high	Divorce	Ex-intimate	Non-exp	recall	Sub	Sub
Bradfield & Aquino	1999	180	42.90	54	Gen com	110	54	0	5	11	0	USA	WFS	Inter	both	Med	Work-related	Work-col.	Non-exp	recall	Sub	Sub
Burnette & Franiuk	2010	109	20.36	54	Uni	94	9	3	3	0	0	USA	TRIM	Inter	both	Med	variety	Intimate	Non-exp	recall	Sub	Sub
Burnette et al.	2012	569	24.86	364	Uni/ Online	314	74	65	19	97	0	USA	TRIM	Inter	RQ	Med	Trust-betrayal	Intimate	both	both	Sub	Both
Chan & Arvey	2011	220	20.40	116	Online	0	0	0	0	0	220	SING	TRIM-12	Inter	TS	Med-high	NA	NA	Non-exp	recall	Sub	Sub
Christensen et al.	2011	222	NA	111	Gen Com	169	9	2	0	42	0	USA	TRIM	Inter	RQ	NA	NA	Family	Non-exp	Hyp	Sub	Sub
Cornick et al.	2011	104	41.67	57	Uni	59	45	0	0	0	0	USA	TRIM	Inter	TS	Med	abuse	NA	Non-exp	recall	Sub	Sub
Crossley	2009	102	19.10	75	Uni	0	0	0	0	0	102	USA	Aquino scale	Inter	TS	Med	NA	NA	Exp	Hyp	Sub	Sub

Study	Year	N	Age	n	Setting							Country	Measure	Type	RQ/TS	Level	Offense	Relationship	Exp	Recall		
Crowley et al.	2018	36	20.50	22	Uni	28	2	4	2	0	0	USA	Merolla scale	Single	both	Med	NA	Intimate	Exp	recall	Sub	Sub
Davidson et al.	2013-15	503	19.89	100	Uni	448	10	15	12	18	0	USA	TRIM	Inter	TS	High	Abuse	NA	Non-exp	recall	Sub	Sub
De Capolare-Ryan et al.	2013	67	60.30	67	Gen com	57	2	0	0	8	0	USA	EFI	Intra	RQ	High	NA	Intimate	Non-exp	recall	Sub	Sub
De Capolare-Ryan et al.	2016	29	66.90	29	Gen com	18	10	0	0	0	1	USA	EFI	Intra	RQ	High	NA	Intimate	Non-exp	recall	Sub	Sub
Dillow et al.	2011	215	NA	105	Uni	0	0	0	0	0	215	USA	FGS	Comb o	RQ	NA	NA	Intimate	Exp	Hyp	Sub	Sub
Donnoli & Wertheim	2012	112	30.63	75	Gen com	0	0	0	0	0	112	AUS	SFS	Comb o	TS	Med	Trust-betrayal	Friend	Exp	Hyp	Sub	Sub
Donovan & Priester	2017	227	NA	NA	Uni	0	0	0	0	0	227	USA	No name	Single	RQ	Med	Trust-betrayal	Intimate/Friend	both	both	Sub/NA	Sub
Eaton et al.	2006	179	25.00	128	Uni/Gen com	0	0	0	0	0	179	CAN	Eaton/TRIM-12	Inter	RQ	Low	Game issue	Work- Col.	Exp	Hyp	Sub	Sub
Edwards et al.	2018	212	27.34	157	Uni	147	0	0	0	65	0	USA	FGS	combo	both	Med	NA	Intimate	Non-exp	recall	Sub	Sub
Exline et al.	2008	218	19.30	112	Uni	150	0	42	0	26	0	USA	TRIM	Inter	both	Med	NA	Intimate	Non-exp	recall	Sub	Sub
Farrell et al.	2015	459	21.00	346	Uni	262	63	31	82	19	2	USA	TRIM	Inter	RQ	NA	NA	Intimate	Non-exp	recall	Sub	Sub
Fatfouta et al.	2014	104	NA	70	Uni	0	0	0	0	0	104	GER	TRIM	Inter	both	Med	NA	Variety	Non-exp	recall	Sub	Sub
Fincham & Beach	2007	168	42.20	91	Gen com	163	5	0	0	0	0	USA	Mc Cul. scale	Comb o	both	High	NA	Intimate	Non-exp	recall	Sub	Sub
Fincham et al.	2005	232	19.00	72	Uni	204	16	5	2	0	5	USA	No name	Intra	TS	Med-high	NA	Intimate	Non-exp	recall	both	Sub
Finkel et al.	2007	69	18.00	35	Uni	51	1	8	2	7	0	USA	No name	inter	RQ	Med	NA	Intimate	Non-exp	recall	Sub	Sub
Furman et al.	2017	185	NA	131	Uni	0	0	0	0	0	185	USA	RFS	Intra	RQ	NA	NA	Intimate	Non-exp	recall	Sub	Sub
Gerlach et al.	2012	242	25.00	100	Gen com	0	0	0	0	0	242	GER	MFS	Inter	RQ	Med	Trust-betrayal	Intimate	Exp	Hyp	Obj	Sub
Gordon et al.	2009	161	NA	87	Gen com	0	0	0	0	0	161	USA	Gordon scale	Intra	RQ	NA	Trust-betrayal	Intimate	Non-exp	recall	Sub	Sub
Guerrero & Bachman	2010	221	22.10	123	Uni	161	6	26	6	22	0	USA	Bachman scale/ TRIM	combo	Both	Med	Variety	Intimate	Non-exp	recall	Sub	Sub
Hadden et al.	2017	350	23.54	290	Uni	91	53	123	56	27	0	USA	TRIM-12	Inter	Both	Med	Infidelity	Intimate	Non-exp	recall	Sub	Sub
Hall & Fincham	2006	87	19.80	34	Uni	52	13	10	7	5	0	USA	TRIM-12	Inter	TS	High	Infidelity	Intimate	Non-exp	recall	Sub	Sub
Hannon et al.	2010	140	22.00	70	Uni	120	13	1	3	3	0	USA	TRIM-12	Inter	RQ	Med-high	Infidelity	Intimate	Non-exp	recall	Sub	Sub
Hantman & Cohen	2010	225	75.00	144	Gen com	0	0	0	0	0	225	IL	EFI	Intra	RQ	Med	NA	Variety	Non-exp	recall	Sub	Man
Hook et al.	2015	323	21.20	246	Uni	187	40	21	63	12	0	USA	TRIM	Inter	RQ	NA	Variety	Intimate	Non-exp	recall	Sub	Sub
Johnson et al.	2013	161	14.50	66	School	159	0	0	0	2	0	USA	No name	Inter	Both	Med	Trust-betrayal	Friend	Non-exp	Hyp	Sub	Sub
Kachadourian et al.	2005	174	NA	87	Gen com	169	5	0	0	0	0	USA	TRIM-12	Inter	Both	NA	Variety	Intimate	Non-exp	recall	Sub	Sub
Karremans et al.	2011	1060	20.00	729	Uni	0	0	0	0	0	1060	HOL CHN JAP TUR ITA USA	OSFQ	Intra	Both	NA	NA	NA	Non-exp	recall	Sub	Sub

Study	Year	N	Age		Sample							Country	Measure									
Karremans & Smith	2010	294	22.00	223	Gen com	0	0	0	0	0	294	HOL	TRIM	Inter	Both	Med	NA	Variety	Non-exp	recall	Sub	Sub
Karremans & Van Lange	2004	90	20.30	56	Gen com	0	0	0	0	0	90	HOL	TRIM	Inter	Both	Med	NA	NA	Exp	recall	Sub	Sub
Kato	2016	344	19.34	179	Uni	0	0	344	0	0	0	JAP	FOPS	Inter	RQ	NA	NA	Intimate	Non-exp	recall	Sub	Sub
Kearns & Fincham	2005	155	19.65	55	Uni	95	14	33	6	7	0	USA	No name	Single	RQ	Med	NA	Intimate	Non-exp	recall	Sub	Sub
Kimmes & Durtschi	2016	171	20.82	115	Uni	0	0	0	0	0	171	USA	MOFS	Inter	RQ	NA	NA	Intimate	Non-exp	recall	Sub	Sub
Kluwer & Karremans	2009	144	33.41	223	Gen com	0	0	0	0	0	144	HOL	TRIM-12	Inter	TS	Low/High	Infidelity	Intimate	Non-exp	recall	Sub	Sub
Komiya et al.	2017	290	19.30	200	Uni	0	0	290	0	0	0	JAP	No name	Single	TS	Low/Med/High	Loss	Intimate/Friend/Family	Exp	recall	Sub	Sub
Koutsos et al.	2009	128	39.20	78	Gen com	0	0	0	0	0	128	AUS/NZ	TRIM	Inter	Both	Med	NA	NA	Non-exp	recall	Sub	Sub
Kurniati et al.	2017	424	15.48	NA	School	0	0	424	0	0	0	ID	DFS/EFS	Intra	RQ	NA	NA	Friend	Non-exp	recall	Sub	Sub
Lawler et al.	2003	108	20.40	64	Uni	93	8	0	0	0	7	USA	TRIM-12/AOFS	combo	RQ	High	NA	Friend/Family	Non-exp	recall	Sub	Sub
Malachowski & Frisby	2015	206	19.31	156	Uni	173	11	11	7	4	0	USA	FGS	combo	Both	High	NA	Intimate	Non-exp	recall	Sub	Sub
May & James	2007	47	22.86	31	Uni	43	1	0	0	3	0	USA	AOFS	Intra	TS	Med-high	NA	Family/Friend	Non-exp	recall	Sub	Sub
McCullough et al.	2003	162	20.44	103	Uni	0	0	0	0	0	162	USA	TRIM	Inter	TS	Med	NA	Variety	Non-exp	recall	Sub	Sub
McCullough et al.	2010	487	19.50	364	Uni	319	58	31	0	0	79	USA	TRIM	Inter	Both	NA	NA	Friend/Family/Intimate	Non-exp	recall	Sub	Sub
McCullough et al.	1998	391	21.60	242	Uni	305	78	0	0	8	0	USA	TRIM	Inter	RQ	NA	NA	Intimate/Friend	Non-exp	recall	Sub	Sub
Merolla & Zhang	2011	365	21.50	230	Uni	263	55	11	22	14	0	USA	FGS-single	Single	Both	Med	NA	Friend/Family/Intimate	Non-exp	recall	Sub	Sub
Merolla et al.	2013	365	22.50	274	Uni	141	0	0	0	0	224	CHN/USA	No name	Single	RQ	NA	NA	Intimate/Friend	Non-exp	recall	Sub	Sub
Miller & Worthington	2010	622	NA	311	Gen com	523	93	0	0	0	6	USA	No name	Single	Both	High	NA	Intimate	Non-exp	recall	Sub	Sub
Mok & De Cremer	2015	166	34.00	97	Online	0	0	0	0	0	166	USA	TRIM-12/no name	combo	Both	NA	Work-related	Work-Col.	Non-exp	recall	Sub	Sub
Molden & Finkel	2010	217	NA	NA	Uni	0	0	0	0	0	217	USA	No name	Single	RQ	Med	Trust-betrayal	Variety	Exp	Hyp	Obj	Sub
Morse & Metts	2011	241	21.29	188	Uni	202	21	0	0	0	18	USA	McCul. Scale	combo	RQ	Med	variety	Friend/Family	Non-exp	recall	Sub	Man
Orcutt	2006	182	19.31	182	Uni	134	23	0	9	6	10	USA	EFI	Intra	TS	Med-high	Work-related	Work-col.	Non-exp	recall	Obj	Sub
Paleari et al.	2003	163	17.40	97	School	0	0	0	0	0	163	ITA	McCul. Scale	combo	RQ	NA	Trust-betrayal	Family	non-exp	Hyp	Sub	Sub
Paleari et al. /Fincham et al.	2002-11	396	45.00	198	Gen com	396	0	0	0	0	0	ITA	MOFS/no name/Mc Cul. Scale	combo	Both	Low	Variety	Intimate	non-exp	recall	Sub	Sub
Peets et al.	2013	93	14.03	58	School	0	0	0	0	0	93	FIN	TRIM-12	Inter	TS	NA	NA	Friend	non-exp	recall	Sub	Sub
Pelucchi et al.	2015	185	NA	95	Uni/Gen com	0	0	0	0	0	185	ITA	MOFS	Inter	Both	Low-med	Trust-betrayal	Intimate	non-exp	both	Sub	Sub

Pronk et al.	2010	149	21.50	118	Uni	0	0	0	0	0	149	HOL	TRIM	Inter	Both	Med	Variety	Variety	non-exp	recall	Sub	Sub
Sheldon et al.	2014	174	30.00	132	Uni	139	26	2	4	3	0	USA	FGS	combo	Both	NA	NA	Intimate	non-exp	recall	Sub	Sub
Stackhouse et al.	2016	105	20.93	94	Uni	45	46	0	7	0	7	CAN	TRIM-12/ no name	combo	TS	Med	NA	NA	non-exp	recall	Sub	Sub
Strelan et al.	2017	363	NA	262	Uni/ Online	0	0	0	0	0	363	AUS/ USA	TRIM/ no name	combo	Both	Med	Infidelity/ Trust-betrayal	Variety	both	Both	Sub	Both
Strelan et al.	2013	555	25.00	391	Uni/ Gen com	0	0	0	0	0	555	AUS	TRIM/ FFS	combo	RQ	NA	NA	variety	non-exp	recall	sub	Sub
Strelan & Sutton	2011	157	19.00	125	Uni	0	0	0	0	0	157	AUS	TRIM-12/ RFS	combo	Both	Med-high	NA	NA	Exp	recall	sub	Sub
Strelan & Van Prooijen	2016	374	35.70	269	Gen com/ online	0	0	0	0	0	374	AUS/ USA/ HOL	TRIM	Inter	Both	Med-high	Infidelity	Intimate	Both	both	sub	Both
Struthers et al.	2010	168	29.00	168	Gen com	0	0	0	0	0	168	CAN	TRIM	Inter	Both	Med	Work-related	Work-col.	Non-exp	recall	sub	Sub
Takada & Ohbuchi	2004	106	NA	NA	Uni	0	0	106	0	0	0	JPN	No name	Beh	RQ	NA	NA	NA	Non-exp	recall	sub	Sub
Takada & Ohbuchi	2013	286	29.61	145	Uni	0	0	286	0	0	0	JPN	No name	Single	RQ	High	NA	NA	Non-exp	recall	sub	Sub
Toussaint & Jorgensen	2008	191	18.70	191	Uni	178	5	0	0	8	0	USA	EFI	Intra	RQ	Med-high	NA	Family	Non-exp	recall	sub	Sub
Toussaint et al.	2018	108	32.40	68	Gen com	94	13	0	0	1	0	USA	TRIM-12	Inter	TS	NA	Work-related	Work-col.	Non-exp	recall	sub	Sub
Vallade & Myers	2014	163	20.74	71	Uni	132	0	0	0	0	31	USA	TRIM	Inter	TS	Med	Instructor issue	Instructor	Non-exp	recall	sub	Sub
Vallade et al.	2015	153	20.66	66	Uni	129	0	0	0	0	25	USA	TRIM	Inter	TS	NA	Instructor issue	Instructor	Non-exp	recall	sub	Sub
Van der Wal et al.	2014	334	14.00	236	Uni/ School	0	0	0	0	0	334	HOL	TRIM-12/ no name	combo	RQ	NA	NA	Friend/ non-friend	Both	recall	sub	Sub
Van der Wal et al.	2016	275	10.41	149	School	0	0	0	0	0	275	HOL	Maio scale/ no name	combo	RQ	Med	Gossip	Friend/ non-friend	Exp	recall	sub	Man
Van Tongeren et al.	2015	193	26.99	105	Gen com	160	17	9	3	0	4	USA	No name	Single	TS	Med	NA	Intimate	Non-exp	recall	sub	Sub
Waldron & Kelley	2005	187	31.00	90	Uni	152	0	0	0	0	35	USA	FGS	combo	TS	NA	NA	intimate	Non-exp	recall	sub	Sub
Wenzel et al.	2010	116	19.00	96	Uni	0	0	0	0	0	116	AUS	TRIM	Inter	Both	NA	NA	NA	Non-exp	recall	sub	Sub
Yaben	2009	37	45.50	22	Gen com	0	0	0	0	0	37	ESP	Yaben scale	Other	RQ	Med-high	Divorce	Ex-intimate	Non-exp	recall	sub	Sub
Yaben	2015	223	NA	130	Gen com	0	0	0	0	0	223	ESP	CPD-S	Inter	RQ	Med-high	Divorce	Ex-intimate	Non-exp	recall	sub	Sub
Ysseldyk & Wohl	2012	82	20.48	54	Uni	0	0	0	0	0	82	UK	SFS	combo	both	med	variety	intimate	Non-exp	recall	both	Sub

Note: Non-exp = non-experimental; Exp= experimental; SFS; State Forgiveness Scale; CPD-S = Forgiveness In Divorce Questionnaire; Yaben scale = Yaben 2005 forgiveness scale; TRIM = Transgression Related Interpersonal Motivations (all scales); TRIM-12 = TRIM avoidance and revenge scales; FGS= Forgiveness Granting Scale; Maio scale = Maio & Thomas Forgiveness Scale (2008); EFI = Enright Forgiveness Inventory; FFS = Focus of Forgiveness Scale; RFS = Rye Forgiveness Scale (2001); MOFS = Marital Offence Forgiveness Scale; McCul. scale = McCullough et al. 1997 measure; AOFS = Acts of Forgiveness Scale; FOPS = Self-report forgiveness of Partner Scale; OSFQ = Offense-specific Forgiveness Questionnaire; DFS = Decisional Forgiveness Scale; EFS = Emotional Forgiveness Scale; Bachman scale = Forgiveness scale Bachman & Guerrero; Gordon scale = Forgiveness Inventory- Gordan & Baucom; MFS = Marital Forgiveness Scale; Eaton scale = Eaton & Struthers forgiveness scale; Aquino scale = Aquino 2001 scale; IRRS = Interpersonal Relationship Resolution Scale; ReFS; Relationship Forgiveness Scale; Bonach scale = Bonach Forgiveness Scale 1999; WTF = Wade 1999 Forgiveness Scale; Merolla scale = Merolla's 2012 forgiveness measure; Intra = intrapersonal; Inter = interpersonal; beh = behavioural; combo = combination of types; Gen com = general community; Uni = university students; School = school students; Online = online recruitment; Work Col. = Work colleague; NA = not reported; Sub = Subjective; obj. = objective; man.= manipulated; hyp = hypothetical; ESP = Spain; IL = Israel; ID = Indonesia; HOL = Holland; AUS = Australia; NZ = New Zealand; TUR = Turkey; USA = United States of America; UK = United Kingdom; ITA = Italy; CHN = China, SING = Singapore; FIN = Finland; JPN = Japan; GER = Germany; CAN = Canada.

Appendix D

Coding Sheet

Title:..

Authors:...

Year of Publication:...

Country of Origin: ....

Participant recruitment: ....

Independent Sample: Yes ☐/no...

STUDY 1	STUDY 2	STUDY 3	STUDY 4
Sample size: n =	**Sample size: n =**	**Sample size: n =**	**Sample size: n =**
Sex: Female = Male = Other =	**Sex:** Female = Male = Other =	**Sex:** Female = Male = Other =	**Sex:** Female = Male = Other =
Age: Range: Mean/SD:	**Age:** Range: Mean/SD:	**Age:** Range: Mean/SD:	**Age:** Range: Mean/SD:
Ethnicity: Caucasian☐ % Afr/Ameri☐ % Asian☐ % Indian☐ % Hispanic☐ % Other☐ %	**Ethnicity:** Caucasian☐ % Afr/Ameri☐ % Asian☐ % Indian☐ % Hispanic☐ % Other☐ %	**Ethnicity:** Caucasian☐ % Afr/Ameri☐ % Asian☐ % Indian☐ % Hispanic☐ % Other☐ %	**Ethnicity:** Caucasian☐ % Afr/Ameri☐ % Asian☐ % Indian☐ % Hispanic☐ % Other☐ %
Type of Study experiment☐ non-experiment☐	**Type of Study** experiment☐ non-experiment☐	**Type of Study** experiment☐ non-experiment☐	**Type of Study** experiment☐ non-experiment☐
Forgiveness measure: TRIM☐DFS☐ EFI ☐ EFS☐MOFS☐ Other.....................	**Forgiveness measure:** TRIM☐DFS☐ EFI ☐ EFS☐MOFS☐ Other.....................	**Forgiveness measure:** TRIM☐DFS☐ EFI ☐ EFS☐MOFS☐ Other.....................	**Forgiveness measure:** TRIM☐DFS☐ EFI ☐ EFS☐MOFS☐ Other.....................
Type of Forgiveness: Intrapersonal ☐ Interpersonal ☐ Single/General ☐ Physiological ☐ Behavioural ☐	**Type of Forgiveness:** Intrapersonal ☐ Interpersonal ☐ Single/General ☐ Physiological ☐ Behavioural ☐	**Type of Forgiveness:** Intrapersonal ☐ Interpersonal ☐ Single/General ☐ Physiological ☐ Behavioural ☐	**Type of Forgiveness:** Intrapersonal ☐ Interpersonal ☐ Single/General ☐ Physiological ☐ Behavioural ☐

Predictors: Relationship	Predictors: Relationship	Predictors: Relationship	Predictors: Relationship
quality ☐	quality ☐	quality ☐	quality ☐
closeness☐	closeness☐	closeness☐	closeness☐
commitment☐	commitment☐	commitment☐	commitment☐
satisfaction☐	satisfaction☐	satisfaction☐	satisfaction☐
reconciliation☐	reconciliation☐	reconciliation☐	reconciliation☐
intimacy☐	intimacy☐	intimacy☐	intimacy☐
trust ☐	trust ☐	trust ☐	trust ☐
importance ☐	importance ☐	importance ☐	importance ☐
other:....................	other:....................	other:....................	other:...................
manipulated☐	manipulated☐	manipulated☐	manipulated☐
subj. measured☐	subj. measured☐	subj. measured☐	subj. measured☐
Transgression severity	Transgression severity	Transgression severity	Transgression severity
low ☐ med ☐ high ☐	low ☐ med ☐ high ☐	low ☐ med ☐ high ☐	low ☐ med ☐ high ☐
Transgression scenario	**Transgression scenario**	**Transgression scenario**	**Transgression scenario**
Real ☐ Hypothetical☐	Real ☐ Hypothetical☐	Real ☐ Hypothetical☐	Real ☐ Hypothetical☐
Obj. measured ☐	Obj. measured ☐	Obj. measured ☐	Obj. measured ☐
Subj. measured☐	Subj. measured☐	Subj. measured☐	Subj. measured☐
Type of Transgression:	**Type of Transgression:**	**Type of Transgression:**	**Type of Transgression:**
Infidelity☐	Infidelity☐	Infidelity☐	Infidelity☐
Lie ☐	Lie ☐	Lie ☐	Lie ☐
Trust Betrayal ☐	Trust Betrayal ☐	Trust Betrayal ☐	Trust Betrayal ☐
Domestic abuse☐	Domestic abuse☐	Domestic abuse☐	Domestic abuse☐
argument☐	argument☐	argument☐	argument☐
not specified ☐	not specified ☐	not specified ☐	not specified ☐
other:	other:	other:	other: ....
Whose being forgiven:	**Whose being forgiven:**	**Whose being forgiven:**	**Whose being forgiven:**
Intimate ☐ %	Intimate ☐ %	Intimate ☐ %	Intimate ☐ %
Friend ☐ %	Friend ☐ %	Friend ☐ %	Friend ☐ %
Family ☐ %	Family ☐ %	Family ☐ %	Family ☐ %
Work colleague☐ %	Work colleague☐ %	Work colleague☐ %	Work colleague☐ %
acquaintance☐ %	acquaintance☐ %	acquaintance☐ %	acquaintance☐ %
Other:....................	Other:....................	Other:....................	Other:....................
Statistical Info: N=	**Statistical Info:** N=	**Statistical Info:** N=	**Statistical Info:** N=