Forgiveness: Does Psychological Flexibility Matter?

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Abstract

Psychological flexibility is conceptualised as an individual's ability to mindfully react to internal experiences through flexible responding to negative thoughts, emotions, and events, such that they achieve enhanced psychological and physical functioning (Harris, 2019). Over the past two decades research has shown increasing interest in psychological flexibility and its mechanisms. However, little attention has been paid to how psychological flexibility predicts forgiveness. The present study aimed to provide empirical evidence for a relationship between psychological flexibility and interpersonal forgiveness. More specifically, the study [a] tested the relationship between psychological flexibility and interpersonal forgiveness while controlling for known correlates of forgiveness and [b] explored the extent to which psychological flexibility moderates the effects of wellestablished situational predictors of forgiveness. The study employed a recall experimental design where participants were required to indicate attitudes towards their transgressor. 176 participants completed an online survey responding to measures of interpersonal forgiveness, psychological flexibility, psychological inflexibility, relationship quality, transgression severity, perceived intent, reparative effort, rumination, state anger and state empathy. Results found that psychological flexibility did not significantly explain greater variance in predicting forgiveness when controlling for known predictors. However, psychological flexibility was found to moderate the relationship between relationship investment and forgiveness. The theoretical and practical implications of these findings are discussed.

FORGIVENESS AND PSYCHOLOGICAL FLEXIBILITY

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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.

Emily Mullins 27 September 2021

Contribution Statement

In writing this thesis, my supervisor and I collaborated to generate research aims of interest and design the appropriate methodology. I conducted the literature search, completed the ethics application, preregistered the project, and wrote the Qualtrics survey, prior to my supervisor aiding in ensuring these were up to standard. I was responsible for all. Participant recruitment, data collection, data analysis, and thesis write-up.

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To my partner Logan, thank you for your unwavering support and love during this intense academic year. Your encouragement when the times are rough is much appreciated and duly noted. I promise to now clear all the papers off the dining table!

A special thank you to Dad, for your unwavering love, and words of wisdom. I would be lost without your consistent support and guidance.

Lastly, thank you to the University of Adelaide for giving me such a wonderful environment to learn and grow in.

Forgiveness: Does Psychological Flexibility Matter?

After experiencing hurtful actions of others, it may leave you bitter and vengeful. You are often faced with an internal debate - to forgive or to not forgive? Some actions may be easily forgiven, such as a stranger accidentally bumping into you on the street. Other actions may not be so easy, such as, abuse. Some people forgive easily, while others may refuse to forgive all wrongdoings. But why is this so? Existing literature demonstrates that empathy and perspective taking facilitates a person's capacity to forgive (Konstam et al., 2001; McCullough et al., 1997). Taking on another person's perspective and develop empathy for them, indicates that capacity for flexible thinking. The influence of psychological flexibility on forgiveness seems logical. However, there has been no investigation into providing empirical evidence of the relationship. The current research intended to provide the first empirical evidence of how psychological flexibility is associated with interpersonal forgiveness.

Defining Psychological Flexibility

Flexibility is not a new concept. However, psychological flexibility is often considered a "slippery construct to define" (Kashdan & Rottenberg, 2010, pg. 866). There are a myriad of 'flexibility' terms found in the literature – for example cognitive flexibility (Martin & Rubin, 1995), coping flexibility (Cheng, 2001) and explanatory flexibility (Fresco et al., 2007). These terms are often used interchangeably or can be bundled together under umbrella terms, such as mental flexibility. It is unclear whether these constructs are independent, identical or overlap with psychological flexibility. To add to the mix, the same term can have varying definitions across different studies. Traditional study of flexibility operates under a well-established neuropsychological framework (e.g., Berg, 1948; Schultz & Searleman, 2002) and continues in today's research (e.g., Crouse et al., 2020; Stange et al., 2017). The literature indicates cognitive flexibility as having a well-established link to

treatment outcomes for chronic pain (Jacobsen et al., 2020), post-traumatic stress disorder (PTSD) (Ben-Zion et al., 2018) and traumatic brain injury (TBI) (Whiting et al., 2015).

Whiting et al. (2015) conducted one of the only studies comparing psychological flexibility and cognitive flexibility. The study investigated the two constructs in the context of psychological distress after traumatic brain injury. Following a traumatic brain injury, people often experience impaired cognitive executive functions (i.e., cognitive flexibility) however were found to react positively to therapies which promote psychological flexibility, such as Acceptance and Commitment Therapy. Their findings suggested that psychological flexibility may act as an overarching construct while cognitive flexibility may be a non-compulsory subdimension of it. Both psychological flexibility and cognitive flexibility manifest themselves in the ability to recognise and change behaviours and thoughts to adapt to environmental changes (Whiting et al., 2015). Nevertheless, psychological flexibility research has distinguished itself from the neuropsychological perspective and is linked to health and well-being, rather than being an executive functioning construct.

Grounded in relational frame theory (RFT; Hayes et al., 2001), psychological flexibility is conceptualised as an individual's ability to mindfully react to internal experiences through flexible responding to negative thoughts, emotions, and events, such that they achieve enhanced psychological and physical functioning (Harris, 2019). Psychological flexibility permits openness with internal experiences, allowing individuals to be present while making behavioural decisions that benefit personal values. In simpler words, this means loosening the hold on our internal thoughts and emotions and being able to act on long term goals rather than impulses.

Psychological flexibility's 6-factor theory (i.e., the Hexaflex Model; Hayes et al., 1999, 2011) serves as the foundation for Acceptance and Commitment Therapy (ACT; Hayes et al., 1999). Acceptance and Commitment Therapy, born from the behaviourism school of

Commitment Therapy's therapeutic approach focuses on changing the function of psychological events and the individual's relationship to them (Hayes et al., 2006). Along with the other "third-wave" behavioural therapies, emphasis is on acceptance, compassion, and mindfulness, coupled with traditional behavioural interventions (Harris, 2019; Hayes et al., 2006). Examples of third-wave interventions include compassion focused therapy (CFT; Gilbert, 2010), dialectical behaviour therapy (DBT; Lineham, 1993), mindfulness-based cognitive therapy (MBCT; Segal et al., 2002), along with several others. Acceptance and Commitment Therapy assumes that experiencing pain in life is inevitable (e.g. hurt experienced after a transgression) and psychological flexibility is an individual's ability to maintain a rich and meaningful life while effectively managing the inevitable pain (Harris, 2019).

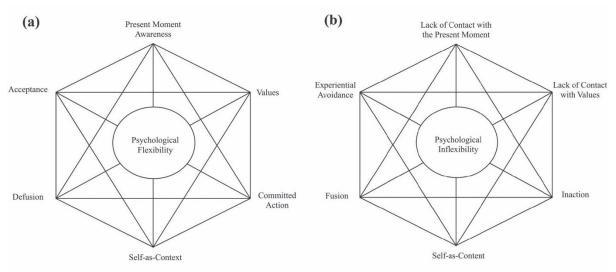
The Hexaflex Model of Psychological Flexibility

Psychological flexibility (Hayes et al., 2011) encompasses six distinct elements: present moment awareness (i.e., being in touch and aware of present moment experience), values (i.e., know what matters in life and provides guidance for desired on-going behaviours), committed action (i.e., do what it takes. Effective action guided by values), self-as-context (i.e., keeping perspective of oneself within one's experiences), defusion (i.e., being able to step back and detach from internal experiences) and acceptance (i.e., openness to unwanted internal experiences). The model also offers six distinct elements of psychological inflexibility: lack of contact with present moment (i.e., not being in touch with the present moment experience), lack of contact with values (i.e., being detached from what matters in life to oneself), inaction (i.e., inability to act in a manner consistent with values), self-as-context (i.e., narrower view of self, based on experiential judgements), fusion (i.e., being trapped in unwanted internal experiences) and experiential avoidance (i.e., to disconnect or

distance oneself from unwanted experiences). Although conceptualised as distinct, the twelve dimensions are strongly interconnected with mutual facilitative relationships (see Figure 1) (Rolffs et al., 2018). The elements of psychological flexibility are considered critical for individual health and well-being, whereas psychological inflexibility elements relate to key elements of psychological distress.

Figure 1

The Psychological Flexibility (Hexaflex) Model



Note. From "Disentangling Components of Flexibility via the Hexaflex Model: Development and Validation of the Multidimensional Psychological Flexibility Inventory (MPFI)" by J. L. Rolffs, R. D. Rogge, K. G. Wilson, 2018, Assessment, 25(4), pg. 459 (https://doi.org/10.1177/1073191116645905)

Psychological Flexibility and Human Functioning

Empirical research indicates that psychological flexibility influences psychopathology, well-being and functional outcomes (Kashdan & Rottenberg, 2010). Theories of change mechanisms in psychotherapy (e.g., Greenberg & Safran, 1987) and models of developmental psychopathology (e.g., Cole et al., 1994) affirm that flexible cognitions, emotions and behaviours predict psychosocial adaption and therapeutic success. Further, psychological flexibility is associated with adaptive personality traits, such as openness and conscientiousness (Kashdan et al., 2020). Adaptive outcomes from psychological flexibility relate to increased quality of life, physical health, positive

relationships, job satisfaction, work performance and pursuit of values and meaning (Bond & Bunce, 2003; Freire et al., 2018; Gloster et al., 2017; Hayes et al., 2006; Marshall & Brockman, 2016). Links between psychological flexibility and adaptive functioning may be more robust in the company of distress. Examples include lower post-traumatic stress and suicide in military personnel (Bryan et al., 2015), higher pain tolerance (Feldner et al., 2006), and greater emotional adjustment during periods of major stress (Westphal et al., 2010). In comparison, psychological inflexibility is pronounced in individuals with anxiety (Crouse et al., 2020; Kashdan et al., 2006) and depressive disorders (Crouse et al., 2020; Stange et al., 2017). Inflexible, avoidant, and rigid behavioural responses create the perfect storm for developing anxiety and depressive disorders. Together these findings assert psychological flexibility as an adaptive response to psychological distress, particularly during challenging or stressful circumstances, including the pursuit of difficult yet meaningful goals. In the next section, I address a construct to which psychological flexibility has not yet been applied.

Forgiveness

Forgiveness does not discriminate. Everyone at times in their life are faced with the decision of whether to forgive or not. Hurt can be experienced from someone you hardly know or even the person you love most in life. Forgiveness has existed since the emergence of humanity (Griswold, 2007a; McCullough, 2008); Philosophers Plato, Aristotle, Socrates, and Epicurus discussed forgiveness in their work (Griswold, 2007a, 2007b). Forgiveness has notable religious overtones, with western tradition forgiveness becoming prominent in Christian and Judaic thought (Griswold, 2007a). In the current era, forgiveness is inescapable. Countless books and articles are dedicated to the topic; a Google search alone produces 268 million results.

But what is forgiveness? What does it mean to forgive actions with personally painful consequences? Upon reflection, forgiveness is a convoluted notion. It is easier to discuss

what it is not rather than what it is. Forgiveness is not simply a *modus vivendi* ("way of life") whereby coping with or forgetting injury, pain, or anger counts as forgiveness (Griswold, 2007a). If this was the case, then hypnosis, amnesia, or taking a pill that rendered us insensible to hurtful actions of others could count as forgiveness. Our intuition discounts this view. Forgiveness is also not conflict resolution (Worthington & Wade, 1999). An individual may resolve a conflict but that is not a determinant of forgiveness.

In the right way, under the right circumstances, the capacity to forgive makes you a praiseworthy person (Griswold, 2007a). However, if one is unable to forgive when forgiveness is justifiable, that person is cold-hearted. A person who finds all wrongs unforgivable strikes us as too proud or arrogant. Imprisoned by the past, unable to grow, confined by harsh bonds of resentment – the person is inflexible in their thoughts. Griswold (2007a) argued that forgiveness requires the pain and resentment of hurtful action to be appropriately moderated. The victim commits to working towards a mindset where the pain and resentment are let go. The victim must willingly reflect and revise or "reframe" their judgements and change their sentiments, in part based on trust in the future.

In psychological literature, forgiveness is not a question of how we *should* act, but how people *actually* act. While definitions of forgiveness vary, there is consensus that forgiveness requires a positive or prosocial psychological change (McCullough, Pargament, et al., 2000). Such a change takes place in behaviours (Dorn et al., 2014), cognition (Thompson et al., 2005), emotion (Malcolm & Greenberg, 2000), or motivations (McCullough et al., 1997). Undoubtably, forgiveness is defined as complex construct (Enright, 1996). Enright understood forgiveness as a process, whereby negative feelings, thoughts, and actions are replaced by positive feelings, thoughts, and actions (Enright & Fitzgibbons, 2000). Enright's process model of forgiveness serves as an intervention model in therapy. McCullough and colleagues propose that forgiveness is a redirection of motivations,

inclusive of conciliatory motivations toward the transgressor (McCullough et al., 1997). Further, motivations can change (McCullough et al., 2003) and be measured over time (McCullough & Root, 2005). Another perspective, which also emphasises the emotion-motivation connection is Worthington's proposal of two kinds of forgiveness (Exline et al., 2003; Worthington, 2003). Emotional forgiveness (Worthington, 2003; Worthington & Wade, 1999) is the replacement of unforgiving, negative emotions with prosocial, positive ones. Initially positive emotions neutralise then decrease negative emotions. Once negative emotions are significantly eradicated, positive emotions can flourish. Decisional forgiveness is intentional behavioural changes towards the transgressor and is viewed as "the cognitive letting go of resentment and bitterness and need for vengeance" (DiBlasio, 1998, pg. 78). That is, forgiveness is functional and serves as reasons to intentionally act less negative and more positive towards an offender.

Functional analysis considers people's cognitions, attitudes, beliefs, feelings, and behaviours to exist to serve particular ends (Snyder, 1993). Accordingly different people may engage in the same feelings, behaviours and so on to fulfill different psychological functions. As such, different people may forgive to serve different functions. Functional theorists argue that forgiveness serves two primary functions. Firstly, to restore and preserve the relationship (e.g., McCullough et al., 1998) — referred to as relationship-focused forgiveness. Whereby the victims primary focus is not on their emotional state but rather on acting in goodwill to prevent further harm to the relationship. The second function is to relieve the victim of unpleasant cognitions and feelings experienced after a transgression (e.g., Baumeister et al., 1998; Strelan et al., 2013) — referred to as self-focussed forgiveness. This function is a form of emotion-based coping (Strelan & Covic, 2006; Worthington & Scherer, 2004), where the victim forgives for the sake of their personal well-being not the well-being of the

relationship. The victim is able to forgive and move on without experiencing transgressions within a relationship (Strelan et al., 2013).

Forgiveness is also conceptualised as a process of coping with a stressful event. That is, "Forgiveness is the process of neutralising a stressor that has been resulted from a perception of an interpersonal hurt" (Strelan & Covic, 2006, pg. 1076). Importantly, forgiveness as an outcome occurs when the stress from the transgression has 'neutralised', that is, the individual is no longer adversely affected by cognitions, affect, and behaviours following the hurtful event.

Interpersonal Forgiveness

The current study focuses on *interpersonal* forgiveness, that is, the forgiveness of a single transgressor by a single victim. Thus, the scope of the current research omits self-forgiveness, trait forgiveness, third-party forgiveness, and forgiveness of or by groups. We live our lives in relationships. Compared to interactions with strangers, we spend far more time with people whom we have relations with (e.g., spouse, parent, friend, co-worker). Our relationships are central to our value and indemnities, and have a considerable impact on our psychological and physical health (Reis et al., 2000). Interpersonal conflict occurs when an individual (the victim) perceives that a harmful transgression has occurred (Fincham, 2000) and the victim holds the offender responsible for harm done (Heider, 1958). Central to interpersonal forgiveness is a moral relationship between two individuals (Griswold, 2007a). Ideally, interpersonal forgiveness requires reciprocity between the victim and offender.

Predictors of Forgiveness

Fehr, Gelfand and Nag's (2010) tripartite forgiveness typology argues that forgiveness (i.e., prosocial motivational transformations) occurs via the victims' cognitions (i.e., making sense of the offense), affect (i.e., emotions and mood), and constraints (i.e., socio-moral, and relational). Each dimension consists of dispositional and situational

constructs. Dispositional constructs are stable individual differences. Conversely, situational constructs assess the distinct elements of the offense context, and repeatably account for greater variance in forgiveness than dispositional constructs. The current study takes an exclusive focus on situational constructs. The multifaceted nature of forgiveness is highlighted in the existing research. Further a variety of variables have been demonstrated to predict and influence forgiveness. Based on the meta-analysis conducted by Fehr et al. (2010) seven situational correlates were chosen for inclusion in the current study. The seven correlates were made up of four situational cognitions (perceived harm severity, perceived intent, reparation, and rumination), two situational affects (state empathy and state anger) and one situational constraint (relationship quality).

Perceived Harm Severity. The severity of the offence has a clear impact on forgiveness, such that greater perceived harm severity demotivates forgiveness, making the offence more difficult to forgive relative to a minor offence (Brose et al., 2005; Exline & Baumeister, 2000; Karremans et al., 2005; Worthington & Wade, 1999). Coupled with the hurtful event, this cognitive perspective sheds the offender in a negative light, therefore deeming them unworthy of forgiveness (McCullough et al., 2003). The negative relation between harm severity and forgiveness is conceptually intuitive (Boon & Sulsky, 1997; Darby & Schlenker, 1982).

Perceived Intent. Perceived offender intent is one of the strongest situational-cognitive predictors of forgiveness (for a meta-analysis, see Fehr et al., 2010).

Transgressions, whereby the harm caused is considered unintentionally, hurt less than ones where the offender is perceived to have acted intentionally (Fincham et al., 2005).

Unintentional actions lack goal-directed purpose and motive (Jones & Davis, 1965; Reeder et al., 2004), suggesting forgiveness is easy, and revenge is socially inappropriate (Yoshimura & Boon, 2018). In contrast, intentional action implies malice or disregard for victims'

feelings. Perceived intent plays an influential role in how a transgression in an interpersonal relationship is viewed (Kim et al., 2004; Struthers et al., 2008). Perceived intent is found to tarnish the victim's view of the offender and thus negatively relates to forgiveness.

Reparation. The reparative effort by an offender (e.g. apology or making amends) signals willingness to revalidate shared values, restoration of victim power and that the victim is valued (Okimoto & Wenzel, 2010). An apology is an offender-initiated tactic aimed to shift the victims perspective and dissociate the offender from their hurtful actions (Fehr et al., 2010; Goffman, 1972). Through expression of remorse and concern for the victim's pain, apologies conjure an offender as worthy of forgiveness - rather than a malicious wrongdoer deserving of vengeance. The effects of apology on forgiveness are well documented in the literature (e.g., Darby & Schlenker, 1982; Eaton & Struthers, 2006; Exline & Baumeister, 2000; Hodgins & Liebeskind, 2003; Ohbuchi et al., 1989). Offender reparative effort stands as one of the strongest situational-cognitive predictors of forgiveness following perceived intent (for a meta-analysis, see Fehr et al., 2010).

Rumination. Rumination is form of coping whereby victims passively and repetitively focus on the damaging features of a transgression (Skinner et al., 2003). Rumination plays an influential role in forgiveness; increased rumination inhibits forgiveness (McCullough et al., 2007; Worthington & Wade, 1999). Ruminating triggers a reliving of thoughts and emotions, often painful and negative, leading to psychological consequences. Rumination does not lead to active problem solving to change circumstances (Nolen-Hoeksema et al., 2008). Therefore, the more a person exerts cognitive and emotional energy on reliving the negative elements if the hurtful event the harder it will be for them to move on and forgive.

State Empathy. Empathy is conceptualised as the ability to feel and understand others' emotional states and is deeply rooted in everyday social interactions (Decety &

Jackson, 2004). Empathetic emotions are fundamental mechanisms for forgiveness (McCullough et al., 1998; McCullough et al., 1997). State empathy serves as an other-oriented emotional state characterised by acts of compassion and warmth towards another individual (Batson, 1990, 1991). Empathy inhibits aggression and generates a heightened concern for others with a cascading effect on prosocial phenomenon's such as cooperation and altruism (see Batson, 1990, 1991; Eisenberg & Miller, 1987). McCullough and colleagues extended empathy's link to prosocial behaviours to include forgiveness, with subsequent research finding state empathy as the greatest situational-affect predictor of forgiveness (for a meta-analysis, see Fehr et al., 2010), and the strongest influence on other social-psychological variables of forgiveness. Empathy operationalises as an individual's capacity to forgive, that is, developing empathy demonstrates an individual's ability to reevaluate the situation and appreciate the other persons situation (i.e., perspective taking). For this reason, empathy has proven to have strong mediating effects on the apology-forgiveness hypothesis (McCullough et al., 1998; McCullough et al., 1997).

State Anger. When treated unjustly by another individual, "in the moment" anger is a common emotional response. State anger, like state empathy, serves as an other-oriented emotional state. Strong and distinct emotions of anger closely align with conflict promoting interpersonal behaviours such as revenge, retaliation and aggression (Allred, 1999). Research consistently shows state anger as one of the greatest situational-affect predictors for lack of forgiveness (for a meta-analysis, see Fehr et al., 2010). Such that, the greater the anger surrounding the transgression, the harder it is for one to start the forgiveness process (Worthington, 2006).

Relationship Quality. Relationship closeness, commitment, and satisfaction influence a victim's response to an offence. The quality of the victim-offender relationship facilitates forgiveness through enhanced victim motivation for relationship preservation and

conflict resolution (McCullough et al., 1998). When a person is in a committed relationship, leaving the relationship can be a great sacrifice, such as financial, social, or otherwise (Mitchell et al., 2001). Committed individuals (i.e., committed to the close relationship) are dependent on the relationship. They are willing to sacrifice their direct self-interest to preserve the relationship and connection with the partner (Van Lange et al., 1997). Higher commitment between two people fosters forgiveness as a function of intent to continue the relationship (Finkel et al., 2002). Further, the motivation to forgive may become automatic, such that forgiveness acts as the default response (Karremans & Aarts, 2007). In sum, greater relationship closeness, commitment, investment size and satisfaction all indicate greater forgiveness from the victim (for a meta-analysis, see Fehr et al., 2010).

Current Study Rationale

Psychological flexibility is becoming ever more prominent in the literature. However, the importance of psychological flexibility has often been concealed by the disconnection of research on the topic (Kashdan & Rottenberg, 2010). Thus far, literature has demonstrated psychological flexibility's span across a variety of human abilities and functions, such as recognising and adapting to different situational demands; mindset and behavioural shifts to inhibit compromise of personal or social functioning; balancing important life domains; and an openness and awareness of deeply held values. Further, psychological flexibility improves well-being and life satisfaction while reducing psychopathologies. It is clear psychological flexibility is interlaced with many facets of life. However, to date no study has investigated the link between psychological flexibility and forgiveness. To my knowledge, Thompson et al. (2005), is the only closely related published study. Thompson and colleagues found a positive correlation between cognitive flexibility and dispositional forgiveness.

The lack of research on the relationships seems like an oversight as the principles in Acceptance and Commitment Therapy infer a means to promote forgiveness through

psychological flexibility (Wilson et al., 2001; Zettle et al., 2009). Psychological flexibility is increasingly seen as an emotion regulation construct (Boulanger et al., 2010; Kashdan et al., 2006). During the forgiveness process, the individual must show flexibility in thought through empathy and perspective taking, accumulating to a prosocial psychological change towards the transgressor. Further, literature has demonstrated that "reframing" is an essential element of both psychological flexibility (Harris, 2019) and forgiveness (Griswold, 2007a). It is hypothesised that psychological flexibility plays an important role in a person's capacity to forgive.

The current study is exploratory in nature and sets out to investigate whether psychological flexibility plays role in interpersonal forgiveness. More specifically, the study aims to [a] test the relationship between psychological flexibility and interpersonal forgiveness while controlling for known correlates of forgiveness and [b] explore the extent to which psychological flexibility moderates the effects of seven well-established situational predictors of forgiveness (relationship quality, perceived harm severity, perceived intent, reparation, rumination, state empathy and state anger).

It is anticipated the psychological flexibility and interpersonal forgiveness will be interrelated and the current study will provide the first empirical evidence for how important psychological flexibility's influence is. Accordingly, it is anticipated that psychological flexibility will dampen the negative influence of perceived harm severity, perceived intent, rumination, and state anger on forgiveness. For example, if it is perceived that the offender acted with intent and transgression is considered highly hurtful, however the victim has high psychological flexibility they will show greater forgiveness through flexible monitoring of their thoughts and emotions. On the other hand, psychological flexibility is predicted to strengthen the positive influence of relationship quality, reportative effort, and state empathy. Such that, even after experiencing a transgression, a person with high psychological

flexibility has the openness and ability to recognise and adapt internal thoughts and emotions, while also considering an outside perspective.

Method

Preregistration

Preregistration of the study was submitted to https://aspredicted.org (AsPredicted #66360). The AsPredicted registry is funded by the Wharton School of the University of Pennsylvania, and the Wharton Credibility Lab manages it.

Participants

A total of 182 responses were collected. In accordance with preregistration plans, one participant was excluded due to failing both attention check questions and five participants were excluded for completing the survey 2 SD above or below the mean completion time. Thus, the final sample comprised 176 participants (76 Male, 97 Female, 2 Non-binary, 1 Not stated), aged 18 - 60 years (M = 27.7, SD = 8.8). The majority of participants were European (78.5%), with the remaining being African (8.5%), American (6.3%), Asian (3.4%) and Australasian (3.4%). 59.1% were in a relationship (type not specified), and 40.9% were single.

Procedure

Recruitment

Participants were recruited via convenience sampling methods. Participants were all registered users of the labour sourcing website https://prolific.oc and were paid £5.10 (currently AUD \$9.25) per hour. *Prolific* is a United-Kingdom based site designed for psychological researchers. For inclusion in the study, participants were required to be at least 18 years of age and able to read and understand English.

A priori power analysis was conducted using G*Power 3 (Faul et al., 2007). For a regression analysis of up to 9 predictors based on an alpha of 0.05, medium effect size and

power of 0.8, a sample size of 114 participants was determined to be sufficient for the study. Due to the potential for frivolous responses, it was decided to recruit 180 participants to maximize power and in anticipation of some attrition.

Design

The study was administered online using *Qualtrics*. The recruitment materials presented the study as "Dealing with hurtful actions of others". The study employed a *recall* methodology whereby participants were asked to recall and describe an instance when someone significantly hurt them. The recall paradigm is a popular methodology in forgiveness research as it emphasises real-world emotions and moods (Fehr et al., 2010). The approach has strong ecological validity allowing insight into lived experiences and emotions, which is not possible in laboratory and hypothetical scenarios.

Next, participants responded to background variables, interpersonal forgiveness variables, known correlates of forgiveness variables and psychological flexibility variables. The survey took approximately 10 minutes to complete. Refer to Appendix A for a copy of the survey.

Measures

Background Variables

Time Elapsed. Participants indicated how long ago the hurtful event occurred with responses converted to days.

Demographic Information. Participants were asked to provide their age (in years), gender, relationship status and race/ethnicity that best describes them.

Interpersonal Forgiveness

Transgression-Related Interpersonal Motivations (TRIMs). McCullough and colleagues Transgression-related Interpersonal Motivations Inventory (TRIM; McCullough et al., 1998) measured two interpersonal; motivations that underlie forgiveness (avoidance and

revenge). The 12-item self-report measure includes a 7-item Avoidance subscale (e.g., "I live as if they don't exist, isn't around" and "I keep as much distance between us as possible") and a 5-item Revenge subscale (e.g., "I'll make them pay" and "I wish that something bad would happen to them"). Items are rated on a 5-point Likert scale ($1 = Strongly \ disagree$, $5 = Strongly \ Agree$). Both subscales have high internal consistencies ($\alpha = .92 \ \& .88$, respectively). The revenge and avoidance subscales were reverse scored. Additionally, benevolence motivation (McCullough et al., 2003) was measured with five positively worded items (e.g., "Despite what they did, I want us to have a positive relationship again" and "I want us to bury the hatchet and move forward with our relationship") ($\alpha = .90$). The single item "I forgive them" was added. The Transgression-related Interpersonal Motivations Inventory had high internal consitency between all items ($\alpha = .94$). All items were summed and averaged, with a higher score indicating greater forgiveness.

Correlates of Forgiveness

All multi-item measures hereafter were summed and averaged, with high scores indicating greater endorsement. All items were rated on a 7-point Likert scale (1 = Strongly disagree, 7 = Strongly agree) unless otherwise indicated.

Relationship Quality. The single item "we are still close now" and seventeen items adapted from the Investment Model Scale (Rusbult et al., 1998) measured participants relationship quality with the transgressor (α = .94). Participants respond to items under four subscales: satisfaction level (e.g., "I feel satisfied with our relationship"), quality of alternatives (e.g., "My alternatives to our relationship are close to ideal"), investment size (e.g., "I have put a great deal into our relationship that I would lose if the relationship were to end") and commitment level (e.g., "I want our relationship to last a very long time"). All items in the quality alternatives subscale were reverse scored. All items were combined to form a single relationship quality measure.

Transgression Severity. Three items measured perceived transgression severity: "What they did was hurtful", "The event is still painful to me", and "Compared to other hurtful events in my life, this was the most hurtful" ($\alpha = .57$).

Intent. Three items measured intent (Strelan et al., 2019). Items included "I think their behaviour was intentional", "I think their behaviour was deliberate", and "I think that they acted on purpose" ($\alpha = .90$).

Reparation. Three items measured offender reparative effort (Strelan et al., 2019). Items were "They were remorseful for what they did", "They made amends for what they did", and "They apologised for what they did" ($\alpha = .83$).

Rumination. McCullough and colleagues' eight-item rumination scale (McCullough et al., 2007) was inspired by the Intrusiveness subscale of the Impact of Event Scale (Horowitz et al., 1979). Participants indicated how much they had the described experiences over the last week. Participants responded to statements such as "I couldn't stop thinking about what they did to me", "Thoughts and feelings about how they hurt me kept running through my head", and "Even when I was engaged in other tasks, I thought about how they hurt me" ($\alpha = .96$).

State Anger. The nine-item state anger subscale of the State-Trait Anger Expression Inventory (STAXI; α = .94; Spielberger et al., 1999) asks participants to hurtful events and respond to statements such as "I feel mad" and "I feel like yelling at someone".

State Empathy. Batson and colleagues eight-item measure of empathy (Coke et al., 1978; Toi & Batson, 1982) consists of eight affect adjectives. On a 6-point Likert scale (1 = not at all, 6 = Extremely), participants indicate the degree they felt each affect for their offender. The current study used the four-item short form of the scale (empathic, concerned, moved and soft-hearted) ($\alpha = .89$).

Psychological Flexibility

Multidimensional Psychological Flexibility Inventory (MPFI; Rolffs et al., 2018). The short form Multidimensional Psychological Flexibility Inventory is a 24-item self-report measure of psychological flexibility and inflexibility (α = .80). The 12 subscales of the Multidimensional Psychological Flexibility Inventory map onto the 12 dimensions of the Hexaflex Model. There are six subscales of psychological flexibility (acceptance, present moment awareness, values, committed action, self-as-context and defusion) and six of psychological inflexibility (experiential avoidance, lack of contact with present moment, lack of contact with values, inaction, self-as-context and fusion). Participants endorse their agreement with each statement on a 6-point Likert scale (1 = never true to 6 = always true). Items from each subscale are averaged to determine a dimensional score, where greater scores reflect greater levels of the specific dimension. Composite scores of psychological flexibility and inflexibility can be determined by averaging the six scores within the composite subscales. Internal consistency for these composites is excellent (psychological flexibility α = .90; psychological inflexibility α = .90.

Ethical Considerations

Ethics approval was obtained through the University of Adelaide's School of Psychology Human Research Ethics Sub-Committee (approval number: APP 21/17). Participants gave informed consent at the commencement of the survey and were reassured that all responses were anonymous and confidential. In the unlikely event that participants experienced any emotional distress due to study participation, details of support helplines (e.g., Lifeline Australia) and advice to seek professional assistance were provided at the conclusion of the survey.

Results

Background Variables

Participants recalled transgressions which occurred on average 4.07 years earlier (SD = 5.45) and described transgressions which were moderately painful compared to other hurtful events in their life (M = 4.22, SD = 1.94). Transgressions described involved dishonesty, infidelity, ostracism, rejection, and abuse (physical, verbal, and emotional). Participants indicated that, generally, their offenders did not make reparative effort (M = 3.16, SD = 1.77) and that they had not forgiven their offender (M = 3.01, SD = 1.41). Relationship quality was low (M = 3.21, SD = 1.45) and they were not currently close (M = 2.90, SD = 2.2). Further, participants indicated moderate-high levels of psychological flexibility (M = 4.12, SD = 89). Descriptive statistics for study measures are reported in Table 1^1 .

Table 1Descriptive Statistics for Study measures

Variable	M	SD	Range
Relationship quality	3.21	1.45	1-6.71
Transgression severity	5.07	1.22	1.67-7
Intent	5.11	1.65	1-7
Reparation	3.16	1.77	1-7
Rumination	3.44	1.69	1-7
State anger	4.18	1.63	1-7
State empathy	2.84	1.41	1-6
Forgiveness	3.08	0.98	1.22-5
Psychological flexibility	4.12	.86	2.25-6
Psychological inflexibility	3.24	.96	1-5.67

Note. N = 176, M = Mean, SD = Standard Deviation

Table 2

Intercorrelations for Study Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Psychological flexibility	-												
2. Psychological Inflexibility	24**	-											
3. Time since transgression	.06	08	-										
4. Age	.01	24**	.37**	-									
5. Relationship Status	.10	14	.15*	.18*	-								
6. Relationship quality	.09	.12	2**	08	.11	-							
7. Transgression severity	.03	08	.09	.12	.14	61**	-						
8. Intent	.06	.11	.08	.10	01	21**	.25**	-					
9. Reparation	.23**	.09	15*	17*	05	.54**	40**	12	-				
10. Rumination	03	.37**	12	.04	10	.13	04	.42**	.04	-			
11. State anger	.02	.22**	07	04	.09	05	0.1	.37**	.03	.38**	-		
12. State empathy	.16*	.23**	16*	19*	12	.54**	4**	09	.48**	.06	06	-	
13. Forgiveness	.10	01	11	09	07	.69**	52**	31**	.52**	11	29**	.58**	-

Note: N=176, *p<.05, **p<.01

Bivariate Relations between Key Variables

Psychological flexibility was positively related to reparative effort and state empathy. While psychological inflexibility was positively related to rumination, state anger, and state empathy. Psychological flexibility and inflexibility had a significant negative correlation. Neither psychological flexibility nor inflexibility were significantly related to forgiveness. Furthermore, as expected, relationship quality, perceived intent, reparative effort, and state empathy were positively related to forgiveness. While transgression severity and state anger were negatively related to forgiveness. There was a non-significant relationship between rumination and forgiveness. Intercorrelations for study variables are reported in Table 2.

Relationship Between Psychological Flexibility and Forgiveness

The first aim of the study was to test the relationship between psychological flexibility and forgiveness. To examine this relationship while controlling for correlates of forgiveness, a hierarchal multiple regression analysis was run. On the first step, relationship quality, transgression severity, intent, reparation, rumination, state anger, and state empathy were entered into the model. Model one accounted for significant variance in predicting forgiveness. The seven predictors explained 64% of the variance ($R^2 = .64$, F (7,168) = 42.6, p< .001). It was found that forgiveness was significantly predicted by relationship quality ($\beta = .43$, p < .001), reparation ($\beta = .15$, p = .01), state anger ($\beta = -.2$, p < .001) and state empathy ($\beta = .24$, p < .001). Transgression severity, intent, and rumination did not significantly predict forgiveness. On the second step, psychological flexibility and psychological inflexibility were entered. After entry of these factors, the total variance explained by the model was 64.4% ($R^2 = .644$, F (9,166) = 33.3, p < .001). Psychological flexibility and inflexibility explained an additional 0.04% of the variance in forgiveness, after controlling for known correlates of forgiveness, however this change was not significant. Relationship quality ($\beta = .42$, p < .001), reparation ($\beta = .15$, p = .01), state anger ($\beta = -.19$, p < .001) and

state empathy (β = .26, p < .001) all remained significant predictors of forgiveness. Table 3 shows results for the hierarchal multiple regression analysis.

Table 3Hierarchal Regression Results for Forgiveness

Variable	В	SE B	β	95% C	I for B	\mathbb{R}^2	ΔR^2
			-	LL	UL	•	
Step 1						.64	.64**
Constant	2.57**	.34		1.89	3.24		
Relationship quality	.29**	.05	.43**	.2	.38		
Transgression severity	04	.05	05	13	.05		
Intent	05	.04	08	12	.02		
Reparation	.08*	.03	.15*	.02	.15		
Rumination	05	.03	08	11	.02		
State anger	12**	.03	21**	19	06		
State empathy	.17**	.04	.24**	.09	.25		
Step 2						.644	.004
Constant	2.81**	.41		1.99	3.62		
Relationship quality	.29**	.05	.42**	.19	.38		
Transgression severity	05	.05	06	13	.04		
Intent	05	.04	08	12	.03		
Reparation	.09*	.03	.15*	.02	.15		
Rumination	04	.03	06	1	.03		
State anger	12**	.03	19**	18	06		
State empathy	.18**	.04	.26**	.19	.38		
Psychological flexibility	03	.06	02	14	.09		
Psychological inflexibility	08	.06	07	18	.03		

Note. Dependant Variable = Forgiveness; CI = Confidence Interval; LL = Lower limit; UL = Upper limit. *p<.05, **p<.001

Moderation Analyses of Psychological Flexibility on Predicters of Forgiveness

The second aim of the study was to explore the moderating effect of psychological flexibility and psychological inflexibility on known predictors of forgiveness. To examine these moderation effects, the PROCESS macro (Hayes, 2018: Version 3.5.3; model 1; 5000 iterations; bias corrected 95% confidence intervals; interaction variables mean-centred) was employed, with the outcome variable being forgiveness. The model was run fourteen times -

the model was run twice for each of the seven predictors (relationship quality, transgression severity, intent, reparation, rumination, state anger and state empathy), once each for psychological flexibility and psychological inflexibility. Refer to Table 4 for the results of the moderation analyses.

Table 4Summary of Moderation Model Interactions

	P	sychologic	al Flexibili	ty	Psychological Inflexibility					
	В	95%	95% CI		95% CI p		В	95% CI		p
		LL	UP			LL	UP			
Relationship quality	.05	03	.14	.22	07	14	.005	.07		
Transgression severity	.03	11	.17	.65	02	14	.09	.68		
Intent	09	18	.002	.06	.04	03	.12	.24		
Reparation	.07	01	.16	.08	05	13	.03	.19		
Rumination	.04	07	.14	.50	07	16	.03	.16		
State anger	.07	03	.17	.17	06	14	.02	.15		
State empathy	06	16	.03	.18	05	14	.03	.22		

Note. Outcome Variable = Forgiveness; CI = Confidence Interval; LL = Lower limit; UL = Upper limit.

No significant moderating effects were found for psychological flexibility or psychological inflexibility on the relationship between any of the seven predictors and forgiveness. However, several interactions approached significance, these will be discussed now.

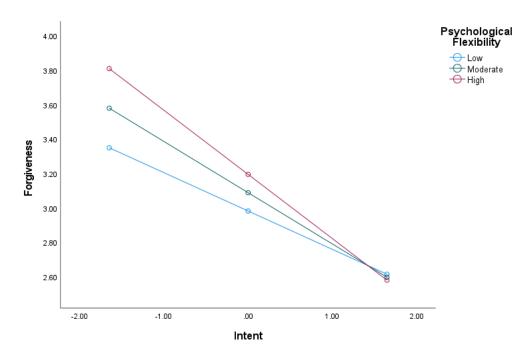
Perceived Intent. The moderating effect of psychological flexibility on the relationship between perceived intent and forgiveness nears significance b = -.09, 95% CI [-.18, .003], t = -.1.92, p = .057. Simple slopes for association between perceived intent and forgiveness were tested for low (-1 SD below the mean), moderate (mean), and high (+1 SD above the mean) levels of psychological flexibility. Each of the simple slope tests revealed a significant negative association between perceived intent and forgiveness, but intent was more strongly related to forgiveness for high levels of psychological flexibility (B = -.37, p < .001) than for moderate (B = -.3, p < .001) or lower levels (B = -.22, p < .001) of

psychological flexibility. Figure 2 plots the simple slopes for the interaction. The findings indicate that when perceived intent is low, participants reporting high psychological flexibility exhibit greater forgiveness than those reporting low psychological flexibility. However, when perceived intent is high, participants reporting low psychological flexibility are slightly more likely to forgive than those reporting high psychological flexibility.

Figure 2

Interaction Between Perceived Intent and Forgiveness for High and Low Psychological

Flexibility

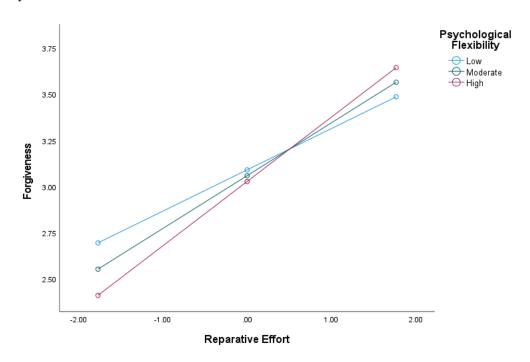


Reparative Effort. The moderating effect of psychological flexibility on the relationship between reparative effort and forgiveness nears significance b = .07, 95% CI [-.01, .16], t = .1.75, p = .08. Simple slopes for association between perceived intent and forgiveness were tested for low (-1 SD below the mean), moderate (mean), and high (+1 SD above the mean) levels of psychological flexibility. Each of the simple slope tests revealed a significant positive association between reparative effort and forgiveness, but reparative effort was more strongly related to forgiveness for high levels of psychological flexibility (B = .35, p < .001) than for moderate (B = .29, p < .001) or lower levels (B = .22, p < .001) of

psychological flexibility. Figure 3 plots the simple slopes for the interaction. The findings indicate that when reparative effort is low, participants reporting low psychological flexibility exhibit greater forgiveness than those reporting high psychological flexibility. The contrary is true when reparative effort is high.

Figure 3

Interaction Between Reparative Effort and Forgiveness for High and Low Psychological Flexibility



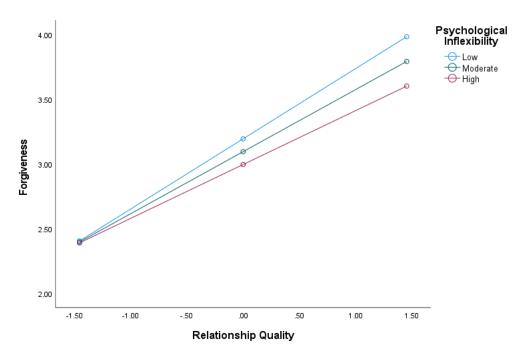
Relationship Quality. There is a non-significant moderating effect of psychological inflexibility on the relationship between relationship quality and forgiveness b = -.07, 95% CI [-.14, .01], t = -1.82, p = .07. Simple slopes for association between perceived intent and forgiveness were tested for low (-1 SD below the mean), moderate (mean), and high (+1 SD above the mean) levels of psychological inflexibility. Each of the simple slope tests revealed a significant positive association between relationship quality and forgiveness, but relationship quality was more strongly related to forgiveness for low levels of psychological inflexibility (B = .54, p < .001) than for moderate (B = .48, p < .001) or higher levels (B = .42, p < .001) of psychological inflexibility. Figure 4 plots the simple slopes for the

interaction. Findings indicate that psychological inflexibility makes little difference to forgiveness when relationship quality is low. However, when relationship quality is high, participants who reported low psychological inflexibility were more likely to forgive then those reporting high psychological inflexibility.

Figure 4

Interaction Between Relationship Quality and Forgiveness for High and Low Psychological

Inflexibility



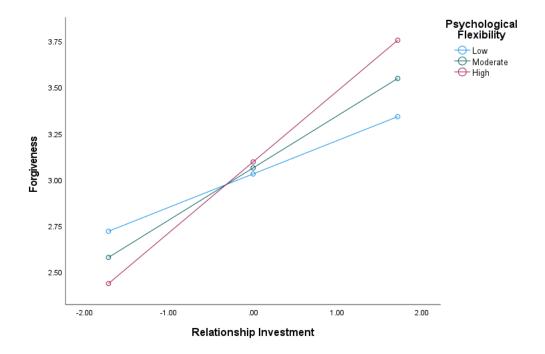
Additional Exploratory Analyses

To further explore the data, the four subscales of the relationship quality (satisfaction level, quality of alternatives, investment size and commitment level) were tested separately for moderation effects from psychological flexibility and inflexibility. Psychological flexibility was found to significantly moderate the effect of relationship investment size and forgiveness (b = .12, 95% CI [.03, .21], t = 2.63, p = .01). Simple slopes for association between relationship investment and forgiveness were tested for low (-1 SD below the mean), moderate (mean), and high (+1 SD above the mean) levels of psychological flexibility. Each of the simple slope tests revealed a significant positive association between relationship

investment and forgiveness, but relationship investment was more strongly related to forgiveness for high levels of psychological flexibility (B = .38, p < .001) than for moderate (B = .28, p < .001) or lower levels (B = 18, p = .002) of psychological flexibility. Figure 5 plots the simple slopes for the interaction. The findings indicate that participants reporting high psychological flexibility and high relationship investment, exhibit greater forgiveness than those reporting low psychological flexibility and high relationship investment. However, when relationship investment is low, participants with low psychological flexibility were more likely to forgive than those with high psychological flexibility. No other significant moderation effect was found².

Figure 5

Interaction Between Relationship Investment and Forgiveness for High and Low Psychological Flexibility



Discussion

Summary of Findings

Psychological flexibility is an increasingly popular construct in clinical psychology. Literature has demonstrated that by being able to mindfully and flexibly react to internal experiences, thoughts, and emotions, a person can achieve enhanced psychological and physical functioning (Harris, 2019). The purpose of this study was to examine – for the first time - the relationship between psychological flexibility and forgiveness. Specifically, it addressed two aims: [a] to test the relationship between psychological flexibility and interpersonal forgiveness while controlling for known situational correlates of forgiveness and [b] to test if psychological flexibility would have a moderating interaction on seven known correlates of forgiveness.

Firstly, psychological flexibility was not correlated with forgiveness, nor did it account for significantly greater variance in predicting forgiveness than known correlates of forgiveness. It is noteworthy, that on average participants had not forgiven their transgressor, which is likely to contribute to the null relationships found. While very limited research exists on the topic, what does exist makes the relationship appear logical. Research has demonstrated that forgiveness is positively correlated to perspective taking and empathy (Konstam et al., 2001; McCullough et al., 1997), and the ability to take another person's perspective and develop empathy for another personal requires some flexibility. The current study, in part, supported this logic as state empathy was positively correlated to both forgiveness and psychological flexibility. The findings also found psychological flexibility to be significantly positively correlated to reparative effort, suggesting higher psychological flexibility indicates a greater willingness to consider and accept an offender's reparation (e.g., apology and making amends).

Interestingly, state empathy was also positively correlated to psychological inflexibility, which on face value seems counter-intuitive. However, this may be attributed to the fact psychological flexibility is not synonymous with positive emotions. Individuals with prevalent negative emotions can demonstrate flexibility, and one can interact with positive emotions inflexibly (Kashdan & Rottenberg, 2010; Schmalz & Murrell, 2010).

Rumination is a passive coping mechanism to deal with distress that involves repetitive thoughts about one's emotional state. The finding that rumination significantly positively correlated to psychological inflexibility contributes to existing literature. Lavalee and Parker (2009) demonstrated that inflexible attitudes positively correlated to rumination in friendships. Additionally, rumination has been suggested to be characterised and prolonged by inflexible cognitive coping (Davis & Nolen-Hoeksema, 2000). Psychological inflexibility was also positively related to state anger. According to the stress-and-coping theory of forgiveness, reduction in both rumination and anger are crucial requirements of the forgiveness process (Worthington, 2006). These findings are consistent with the understanding that higher psychological inflexibility may inhibit a person's capability to move past and accept negative thoughts and emotions following a transgression.

The findings of this study replicated existing findings that relationship quality, transgression severity, perceived intent, reparative effort, state anger, and state empathy are all correlates of forgiveness (For a meta-analysis see: Fehr et al., 2010). These observed results demonstrate the studies validity in contributing to existing forgiveness literature. However interestingly, contrary to existing findings, rumination was not found to be a correlate of interpersonal forgiveness.

Secondly, the study investigated both psychological flexibility and psychological inflexibility as moderators of the relationships between seven predictors of forgiveness (relationship quality, perceived harm severity, perceived intent, reparation, rumination, state

empathy, and state anger) and interpersonal forgiveness. No significant moderating effects were found; however, several were tenuous and on further exploration clear differences emerged. The findings indicated that when perceived intent was low and the person had high psychological flexibility, they were significantly more likely forgive. However, when perceived intent was high, forgiveness was low and psychological flexibility made little difference. Additionally, participants who indicated high psychological flexibility and high reparative effort reported significantly greater forgiveness compared to participants who indicated low psychological flexibility. The opposite was true when reparative effort was low. These findings indicate that psychological flexibility facilities an individual's capacity for perspective taking and developing empathy. That is, people with high psychological flexibility can analyse the situation and realise that the transgressors actions may not have been a direct personal attack and therefore deeming them worthy of forgiveness.

Psychological inflexibility approached a significant moderating effect on the relationship between relationship quality and forgiveness. When explored further, a clear difference emerged; psychological inflexibility made negligible difference when relationship quality was low, while on the other hand, when relationship quality was high, people with high psychological inflexibility were less likely to forgive than those with low psychological inflexibility. Furthermore, during additional exploratory analyses, psychological flexibility was found to have a significant moderating effect on the relationship between relationship investment size and forgiveness. People with high psychological flexibility show greater forgiveness when relationship investment was high, but in contrast show less forgiveness when relationship investment is low. These findings suggest that psychological flexibility plays a role within intimate relationships. In particular, psychological flexibility is likely to influence a person's *level of dependence*, that is, "the extent to which an individual needs a given relationship, or relies uniquely on the relationship for attaining desired outcomes"

(Rusbult et al., 1998, pg. 359). Greater dependence on your relationship suggests that relationship has become part of your personal values and goals; therefore, meaning you are committed to implement effective actions guided by values (committed action) and you are willing to deal with unpleasant internal experiences (acceptance). On the other hand, if relationship dependence is low, the relationship may not be an important domain of your personal values and goals and by knowing and accepting this you may be more willing to sacrifice the relationship over sacrificing personal values. In sum, this finding indicates psychological flexibility may provide pro-relationship motives, pro-relationship mental states, and act as an emotional coping mechanism when dealing with interpersonal forgiveness. However, further research is needed to confirm this. Interestingly, no correlation was found between relationship quality (i.e., the combined measure of satisfaction level, quality of alternatives, investment size and commitment level) and psychological flexibility which contradicts existing findings (e.g., Twiselton et al., 2020). It is possible that the lack of correlation between psychological flexibility and relationship quality may be due to the current study not requiring participants to still be in contact with the transgressor. The limitations of the study and future research directions will now be discussed.

Limitations and Future Directions

Certain limitations of this study could be addressed in future research. Firstly, forgiveness is not a linear process; the victims' feelings and emotions towards the offender can change day to day (McCullough et al., 2003; McCullough et al., 2010; Tsang et al., 2006). Thus, a limitation of the study is that forgiveness was measured at a single time point. The use of a cross-sectional design for a recall paradigm is limiting as at different time points following a transgression, different relations between key variables may occur. In future research this issue may be addressed by setting a limit on time since transgression for inclusion in the study (e.g., week, month). Furthermore, a longitudinal design would allow

the changing relationships between variables to be observes across time, as the forgiveness process occurs.

Another limitation of the study is the use of a recall paradigm. While a recall methodology is popular in forgiveness research, it tends to emphasise emotions and moods, as opposed to a *scenario* methodology (i.e., ask participants to imagine how they would react to a hypothetical transgression) which emphasises cold judgements and cognitions (Fehr et al., 2010). Additionally, a self-report methodology was employed. While self-report data is useful in forgiveness research, researchers should also consider using observation and behavioural measures to gain greater insight into the forgiveness process (McCullough, Hoyt, et al., 2000). Accordingly future studies may consider standardising the transgression experienced by participants (scenario methodology), ideally in lab-controlled conditions.

To consider psychological flexibility from a more cognitive perspective, future research may employ a scenario methodology with a measure of decisional forgiveness. Additionally, a controlled setting would allow researchers to consider how situational and relational correlates of forgiveness (e.g., Fehr et al., 2010) may be manipulated. As an example, the present study did not ask participants to specify what type of relationship they had with the offender (e.g., romantic, friend, colleague) nor did it require them to still be close or in a relationship with them. Studies have demonstrated that different interpersonal relationships may elicit different forgiveness responses. Eaton and Struthers (2006) demonstrated that work colleagues are forgiven less than romantic partners and friends. Additionally, individuals are less likely to react aggressively if the transgressor is a friend.

A third limitation is that the present study utilised the most widely used measure of forgiveness, the Transgression-Related Interpersonal Motivations Inventory (TRIM: McCullough et al., 2003; McCullough et al., 1998). The Transgression-Related Interpersonal Motivations Inventory has been found to be highly correlated to relationship-focussed

forgiveness (Strelan et al., 2013), whereas psychological flexibility may be more closely related to self-focussed forgiveness; a form of emotion-based coping. Furthermore, the Transgression-Related Interpersonal Motivations Inventory is designed to measure motivational changes towards a transgressor in the circumstances of interpersonal forgiveness. Psychological flexibility is an individual difference, which may not be a good indicator of episodic forgiveness. It is not unusual for dispositional constructs to account for less variance in episodic forgiveness than situational constructs (Fehr et al., 2010). In turn, dispositional forgiveness usually has stronger relations to dispositional measures of wellbeing. For example, Thompson et al. (2005) found that all of dimensions of trait forgiveness significantly correlated to anxiety, depression, trait anger, life satisfaction positive affect and negative affect. To address this limitation, future research may employ a measure of dispositional forgiveness. By doing so, a significant result may be found, similar to findings in Thompson et al. (2005) where dispositional forgiveness was found to be significantly positively correlated to cognitive flexibility. It is important to note that psychological flexibility and cognitive flexibility cannot be assumed to be the same thing, however there are existing findings that suggests there are some similarities and cross overs as they both manifest in the ability to recognise and change behaviours and thoughts (Whiting et al., 2015).

The short from of the Multidimensional Psychological Flexibility Inventory (MPFI: Rolffs et al., 2018) was employed, providing global scores of psychological flexibility and psychological inflexibility. Such an approach may have limited the ability to understand how psychological flexibility interacted with forgiveness. Accordingly, the current study did not individually consider the six dimensions of psychological flexibility (acceptance, present moment awareness, values, committed action, self-as-context and defusion) or the six dimensions of psychological inflexibility (experiential avoidance, lack of contact with present

moment, lack of contact with values, inaction, self-as-context, and fusion). Testing the extent to which the separate dimensions interacting with forgiveness was outside the scope of the present study, therefore omitting potential relationships. Accordingly, future research could consider psychological flexibility (and inflexibility) as the separate dimensions demonstrated in the Hexaflex Model. Certain dimensions may have significantly interacted with forgiveness on their own, however when considered as a global measure this significance may be lost. For example, *defusion* is the ability to view personal thoughts and feelings from the perspective of a 'separate observer' and has been linked to an individual's perspective taking ability (Boland et al., 2021) – an important component of the forgiveness process. Additionally, *experiential avoidance* (a dimension of psychological inflexibility) and forgiveness have been found to be significantly negatively correlated (Orcutt et al., 2005).

Worthington and Scherer (2004) suggested there is scope for researchers to find who best uses forgiveness as an emotion-focused coping strategy, and to whom forgiveness can be taught as an active coping strategy. I theorise that psychological flexibility may address this question, at least in part. The forgiveness process is analogue to the coping process in that it [a] is a reaction to a stressor, [b] involves appraisals, [c] is emotion regulation, [d] is future-oriented, [e] can be both intra- and inter-personal, and [f] is dynamic and unfolds over time (Strelan & Covic, 2006). Coping is not just an internal experience and process; it is also influenced by external factors. Psychological flexibility is the ability to recognise and change behaviours and thoughts, in response to environmental changes. Accordingly, high psychological flexibility could be indicative of the capacity to successful move through the forgiveness-coping process.

A final direction for future research is the study of psychological flexibility as a possible mechanism to explain the relationship between personality and forgiveness. Existing research demonstrates that forgiveness (Brose et al., 2005; McCullough et al., 1998; Walker

& Gorsuch, 2002) and psychological flexibility (Bond et al., 2013; Kashdan & Rottenberg, 2010; Latzman & Masuda, 2013) both have a relation to personality traits. Personality accounts for 20% - 30% of variance in forgiveness (Mullet et al., 2005) and it is therefore possible that psychological flexibility makes up some or all of the unexplained variance. Along the same vein, psychological flexibility is a mechanism explaining the link between personality and well-being (Steenhaut et al., 2019). Therefore, if psychological flexibility is found to interact with the relationship between personality and forgiveness, the results would have important implications for clinical practice. Based on the understanding that psychological flexibility is malleable, contrary to personality traits (Levin et al., 2012).

Conclusion

The findings of the present study constitute an important first step in an intriguing new area of psychological flexibility research. Humans are social beings who maintain interpersonal relationships with a variety of people, and consequently, dealing with conflict is essential. Some people forgive more easily than others and the current research proposed psychological flexibility as a potential answer to this question. The findings of the current study indicated no relationship between psychological flexibility and interpersonal forgiveness and tentative evidence for psychological flexibility's moderating effect on some well-established predictors of forgiveness. The findings of the current study indicated that, as anticipated, psychological flexibility influences the forgiveness process in a manner consistent with the understanding that empathy and perspective taking are essential to forgiveness. Furthermore, it seems likely that psychological flexibility may act as an emotional-coping strategy whereby one has the capacity to adapt to their situation and that dependence on the relationship is an important factor. Current findings also corroborated existing research on situational predictors of forgiveness. The findings indicate there is still considerable scope for further investigation into the relationship of psychological flexibility

and forgiveness. It is recommended that future research consider psychological flexibility with relation to dispositional forgiveness and forgiveness's functional properties as a coping strategy as this may open a window for a better understanding of the relationship. Our understanding of psychological flexibility and its widespread influence is still in its infancy. Future research will further highlight the importance psychological flexibility's theoretical and practical implications. Psychological flexibility may broaden our understanding of forgiveness as a functional and adaptive process. From a practical perspective, psychological flexibility is a malleable behavioural process (Levin et al., 2012), whereby understanding how it interacts with domains can have in important impact in a therapeutic setting.

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Footnotes

¹Independent-sample *t*-tests examined the differences between male and females on study variables. Table 5 reports the results. Table 5 shows that females reported significantly greater relationship quality, transgression severity, rumination, and psychological inflexibility. There were no significant differences on perceived intent, reparative effort, state anger, state empathy, forgiveness, and psychological flexibility.

Table 5

Summary of T-tests for Differences Between Male and Females on Study Variables

	Male (n = 76)	Female $(n = 97)$		
	M(SD)	M(SD)	t^a	Cohen's d
Time elapsed	3.7(4.37)	4.42(6.22)	87	13
Relationship quality	2.96(1.26)	3.39(1.56)	-1.97*	3
Transgression severity	4.81(1.71)	5.27(1.23)	-2.5**	38
Intent	5.3(1.48)	4.93(1.77)	1.45	.22
Reparation	3.11(1.68)	3.16(1.85)	19	03
Rumination	2.99(1.53)	3.82(1.73)	-3.3***	51
State anger	4.05(1.77)	4.28(1.53)	9	14
State empathy	2.88(1.38)	2.79(1.44)	.4	.06
Forgiveness	3.01(.91)	3.13(1.04)	81	12
Psychological flexibility	4.02(.76)	4.2(.93)	-1.34	21
Psychological inflexibility	3.06(.97)	3.38(.95)	-2.11*	32

Note. ^adf = 171. *p<.05, **p<.01, ***p<.001

²To try gain a better understanding of how psychological flexibility and psychological inflexibility interact with forgiveness a series mediation models were run using the PROCESS macro (Hayes, 2018: Version 3.5.3; model 4; 5000 iterations; bias corrected 95% confidence intervals; interaction variables mean-centred). State empathy (mediator) was found to supress the negative relationship between psychological inflexibility (independent variable) and forgiveness (dependant variable). The direct effect between psychological inflexibility and forgiveness (DE = -.15, p = .02) increased once state empathy was controlled

(suppression) (TE = -.01, p = .91). The total effect (TE= .41, p < .001). The indirect effect of psychological inflexibility on forgiveness via state empathy (B = .14, CI 95% [.05, .25]) was significant, that is the 95% confidence interval did not cross zero. For suppression no initial bivariate association between the independent variable and dependant variable is necessary (MacKinnon et al., 2000; Shrout & Bolger, 2002). No other significant mediation effect was found.

Appendix 1: Survey

Dealing with hurtful actions of others

Start of Block: Information and Consent
Q1 Welcome!
We are interested in people's experiences of being deeply hurt by another individual. By understanding people's experiences after being hurt, we can improve current clinical practices and intervention.
In this study, you are asked to recall an instance where someone deeply upset you. If this situation does not apply to you, or if you feel you are unable to do this, then please do not continue any further. Partial results cannot be counted. Please don't agonise over your answers. There are no right or wrong answers; just answer honestly.
This survey takes most people about 10 minutes to complete. Please complete the survey in one go.
The data you provide will be used in a Psychology (Honours) thesis. Rest assured that your responses are completely anonymous.
Participation in this study is completely voluntary. If you agree to participate, you can withdraw from the study at any time. Please note: by continuing, you are giving your consent to participate in this study.
Q2 * before we begin, are you over the age of 18?
O Yes
○ No
Page Break ————————————————————————————————————

nd of Bloc	k: Information and Consent	
art of Blo	ck: Description of a transgression	
emotions	ease recall an experience you have had in the past that led to significant fee on your part where another persons actions deeply upset you. Please try to ras vividly as possible.	
What did	the person do to hurt you? How did it make you feel?	
d of Bloc	k: Description of a transgression	
art of Blo	ck: Time elapsed	
	g ago did the hurtful event take place? Please add the amount of time that has are just after an approximation. You can select one or more boxes for your ar	
O Year	s	
O Mont	hs	
	k: Tinne elapsed	
	BC HIND OL ONE OF COLOR	

Q7 Thinking about the person who hurt you, indicate your current feelings towards the person. Use the following scale to indicate your agreement with each statement.

Osc are ronowing	Strongly	Disagree	Somewhat	Neutral	Somewhat	Agree	Strongly
	disagree	Disagree	disagree	reducidi	agree	Agree	agree
I feel satisfied with our relationship	0	0	0	0	0	0	0
Our relationship is close to ideal	0	0	0	0	0	0	0
Our relationship makes me happy	0	0	0	0	0	0	0
Our relationship does a good job at fulfilling my needs for companionship	0	0	0	0	0	0	0
My alternatives to our relationship are close to ideal (e.g. spending time with other people or on my own)	0	0	0	Ο	0	0	0
My needs for companionship could easily be fulfilled in an alternative relationship	0	0	0	0	0	0	0
My alternatives are attractive to me (e.g. spending time with other people or on my own)	0	0	0	0	0	0	0
If we did not have a relationship, I	0	0	0	0	0	0	0

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would be fine							
I have put a great deal into our relationship that I would lose if the relationship were to end	0	0	0	0	0	0	0
Many aspects of my life are linked to our relationship, and I would lose if the relationship were to end	0	0	0	0	0	0	0
I feel very involved in our relationship - like I have put a great deal into it	0	0	0	0	0	0	0
My relationships with others would be complicated if our relationship ended	0	0	0	0	0	0	0
I want our relationship to last a very long time	0	0	0	0	0	0	0
I would be very upset if our relationship were to end in the near future	0	0	0	0	0	0	0
I feel very attached to our relationship - very strongly linked	0	0	0	0	0	0	0

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I want our relationship to last forever	0	0	0	0	0	0	0
We are still very close now	0	0	0	0	0	0	0
End of Block Re	Nafiiome biin	Quisiliity					

Start of Block: Perceived Hann Severity, Intent & Apology/ Amends



Q8 Respond to the following statements by thinking about the person who hurt you and what they did to you. Use the following scale to indicate your agreement with each statement.

aloy ala lo you.	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
What they did was hurtful	0	0	0	0	0	0	0
The event is still painful to me	O	O	O	0	O	0	0
Compared to other hurtful events in my life, this was the most hurtful	0	0	0	0	O	0	0
I think their behaviour was intentional	0	O	0	0	0	0	0
I think their behaviour was deliberate	O	O	0	0	0	0	0
I think that they acted on purpose	0	O	0	0	0	0	0
They were remorseful	0	0	0	0	0	0	0
They made amends for what they did	0	0	0	0	0	0	0
They apologised for what they did	O	O	0	0	0	0	0

End of Block: Perceived Harm Severity, Intent & Apology/ Amends

Start of Block: Rumination



Q9 Over the last week how have you felt about the hurtful event? Use the following scale to indicate your agreement with each statement. $\frac{1}{2} \left(\frac{1}{2} \right) = \frac{1}{2} \left(\frac{1}{2} \right) \left(\frac{1}{2} \right$

indicate your ag	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
I couldn't stop thinking about what they did to me	0	0	0	0	0	0	0
Thoughts and feelings about how they hurt me kept running through my head	0	0	0	0	0	Ο	0
Strong feelings feelings about what this person did to me kept bubbling up	0	O	0	0	0	0	0
Images of the offense kept coming back to me	0	0	0	0	0	0	0
I brooded about how they hurt me	0	0	O	0	O	0	0
I found it difficult not to think about the hurt they caused me	0	0	0	0	O	0	0
I found myself playing offense over and over in my mind	0	0	0	0	0	0	0
Even when I was engaged in other tasks, I thought about how they hurt me	0	Ο	0	0	0	0	0

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It is important that you pay attention to this study. Please select "strongly disagree"	0	0	0	0	0	0	0
End of Block: I	Rumiinatiiom						
Start of Block:	State Ange	r					
X,							

 ${\tt Q10}$ The following statements ask how you feel about what the person did. Indicate your agreement with each statement.

-	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
I feel mad	0	0	0	0	0	0	0
I feel angry	0	0	0	0	0	0	0
I feel irritated	0	0	0	0	O	0	0
I feel like swearing	0	0	0	0	O	0	O
I feel burned up	0	0	O	0	O	0	0
I feel like yelling at somebody	0	0	0	0	0	O	0
l feel furious	0	0	0	0	0	0	0
I feel like hitting someone	0	0	0	0	0	0	0
I feel like breaking something	0	0	O	0	O	0	0

End of Block: State Anger

Start of Block: Empathy



Q11 Rate the degree to which you feel each affect for the person who hurt you.

	Not at all	2	3	4	5	Extremely 6
Empathetic	0	0	0	0	0	0
Concerned	0	0	0	0	0	0
Moved	0	0	0	0	0	0
Soft hearted	0	0	0	0	0	0

End of Block: Empathy

Start of Block: TRIM -



Q12 Please indicate your current thoughts and feelings about the person who hurt you. Use the following scale to indicate your agreement with each of the statements.

lollowing scale to indicate	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I'll make them pay	0	0	0	0	0
I wish that something bad would happen to them	0	0	0	0	0
I want them to get what they deserves	0	0	O	0	O
I'm going to get even	0	0	O	0	0
I want to see them hurt and miserable	0	0	0	0	0
I keep as much distance between us as possible	0	0	0	0	0
Hive as if they don't exist, isn't around	0	0	0	0	0
I don't trust them	0	0	0	0	0
I find it difficult to act warmly toward them	0	0	0	0	0
I avoid them	0	0	0	0	0
I cut off the relationship with them	0	0	0	0	0
I withdraw from them	0	0	0	0	0
Even though their actions hurt me, I still have goodwill for them	0	0	0	0	0
I want us to bury the hatchet and move forward with our relationship	0	0	O	0	0

Despite what they did, I want us to have a positive relationship again	0	0	0	O	0
Although they hurt me, I put the hurts aside so we could resume our relationship	0	O	0	0	0
I have released my anger so I could work on restoring our relationship to health	0	0	0	O	0
I forgive them	0	0	0	O	0

End of Block: TRIM -

Start of Block: MPFI - Flexibility sub scales



			-	_
M13	In the	lact	two	weeks

Q13 in the last two we	eks					
	Never TRUE	Rarely TRUE	occasionally TRUE	Often TRUE	Very often TRUE	Always TRUE
I was receptive to observing unpleasant thoughts and feelings without interfering with them.	0	0	0	0	O	0
I tried to make peace with my negative thoughts and feelings rather than resisting them	0	0	O	0	0	0
I was attentive and aware of my emotions	0	0	0	0	0	0
I was in tune with my thoughts and feelings from moment to moment	0	0	O	0	0	0
Even when I felt hurt or upset, I tried to maintain a broader perspective	0	O	0	O	O	0
I carried myself through tough moments by seeing my life from a larger viewpoint	0	0	O	0	O	0
I was able to let negative feelings come and go without getting caught up in them	0	0	O	0	0	0
When I was upset, I was able to let those negative feelings pass through me without clinging to them	0	0	0	0	0	0
I was very in-touch with what is important to me and	0	0	O	0	0	0

my life						
I stuck to my deeper priorities in life	0	0	O	0	0	0
Even when I stumbled in my efforts, I didn't quit working toward what is important	0	0	0	0	0	0
Even when times got tough, I was still able to take steps toward what I value in life	0	0	0	0	0	0
It is important that you pay attention to this study. Please select "Never True"	0	0	0	0	0	0

End of Block: MPFI - Flexibility sub scales

Start of Block: MPRI - Inflexibility Sub scales



Q14 In the last two	weeks					
	Never TRUE	Rarely TRUE	Occasionally TRUE	Often TRUE	Very often TRUE	Always TRUE
When I had a bad memory, I tried to distract myself to make it go away	O	0	0	0	0	0
I tried to distract myself when I felt unpleasant emotions	0	0	0	0	O	0
I did most things on "automatic" with little awareness of what I was doing.	0	0	0	0	0	0
I did most things mindlessly without paying much attention.	0	0	0	0	O	0
I thought some of my emotions were bad or inappropriate and I shouldn't feel them	0	0	0	0	0	0
I criticized myself for having irrational or inappropriate emotions	0	0	0	0	0	0
Negative thoughts and feelings tended to stick with me for a long time.	0	0	0	0	O	0
Distressing thoughts tended to spin around in my mind like a broken record.	0	0	0	0	O	0
My priorities and values often fell	0	0	0	0	O	0

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by the wayside in my day to day life						
When life got hectic, I often lost touch with the things I value	0	0	0	0	0	0
Negative feelings often trapped me in inaction	0	0	0	0	0	0
Negative feelings easily stalled out my plans	O	0	0	0	0	0
End of Block: MP	FI - Inflexib	ility Sub sca	ales			
Start of Block: De	mographic	\$				
Q15 Finally, please	e answer so	me demogra _l	phic questions.			
Q16 How old are y	ou? (in who	le years)				
Q17 What is your o	jender?					
O Male						
O Female						
O Non-binary						
○ Transgende	er					
Other						
O Prefer not t	o say					

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Q18 Which of the following best describes your current relationship status?
○ Single
O In a relationship
Q19 What is your nationality?
End of Block: Demographics