

# Memories of Parenting Behaviour and Their Relation to Young Adults' Friendships: Moderating Effects of Cognitive and Dispositional Factors

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**Abstract** - Research has consistently demonstrated the effect of positive parenting on young adults' social outcomes. However, a vast number of factors can moderate this link. The present study examined whether trait mindfulness and adaptive cognitive modification may be moderators in the link between young adults' recollections of parenting and the present-day quality of friendships. An undergraduate sample (N = 626) was surveyed regarding memories of their parents' positive parenting during their first 16 years of life, their own levels of trait mindfulness, and the quality of current interpersonal relationships with friends. Participants also provided narratives on their past vs. present perceptions of a negative parenting event from their childhood, and these narratives were coded for adaptive cognitive modifications in attributions for parenting behaviours. Analyses indicated that mindfulness enhanced the association between recalled positive parenting and friendship quality. Adaptive cognitive modification did not show statistically significant effects on the relationship between recalled positive parenting and friendship quality. These results show that dispositional factors such as mindfulness, but not adaptive cognitive modification for attributions, influence the way that recollections of parents' parenting are related to young adults' positive friendships.

**Keywords**— Parenting, Friendship, Mindfulness, Attributions, Recollections

## I. MEMORIES OF PARENTING BEHAVIOUR AND THEIR RELATION TO YOUNG ADULTS' FRIENDSHIPS: MODERATING EFFECTS OF COGNITIVE AND DISPOSITIONAL FACTORS

As is well known, the interactions that parents have with their children throughout development can have a significant impact on later social outcomes (e.g., Carson & Parke, 1996; Green & Baker, 2011; Kahen et al., 1994). Belsky et al. (1991) have presented a potential framework through which parenting is related to social interactions, where supportive, engaged, and sensitive parenting behaviours form the basis for social interactions that have more positive qualities such as mutual-reciprocity and trust. On the other hand, parenting characterized by harsh and rejecting behaviours forms the basis for more negative social interaction qualities, such as hostility and distrust, when interacting beyond the parent-child dyad. To support this claim, research has shown that parental engagement and parental responsiveness assessed in childhood relates to children's greater positive affect in social contexts and increased peer engagement (Kahen et al., 1994). Conversely, parenting behaviours that involve negative

emotional reciprocity (the use of negative emotional tones in response to negative emotion from the child) during development is associated with children's more maladaptive social relationships with others during childhood, as characterized by social-avoidant behaviours and physical aggression (Carson & Parke, 1996).

Similar findings have also been seen to extend beyond childhood, where negative displays of affect from parents in childhood impacts social interactions in early adulthood by encouraging the use of negative emotional expressions (Kim et al., 2001). Additionally, parents who display more positive affect towards their children raise children who are more socially competent (Green & Baker, 2011), whereas displays of negative affect from parents are related to poorer social outcomes, comparatively (Eisenberg et al., 1998). Positive parenting has also been associated with romantic relationship quality, where recalled emotional support behaviours during childhood were associated with disclosure and help-seeking behaviours in young adults' romantic relationships (Black & Schutte, 2006).

Young adults' memories of parenting behaviours have also been implicated in distinct social outcomes, specifically in the context of friendships (Alegre & Benson, 2019; Black et al., 2007; Wise & King, 2008). For example, college-aged women who reported higher levels of family cohesion and recreation during childhood also reported overall higher quality of present-day friendships with best friends, as compared to those who reported lower levels of childhood family cohesion and recreation (Wise & King, 2008). Recalled parental warmth during childhood has also been implicated in the present-day elevated positive friendship quality of young adults, as measured by degree of interaction, feeling understood by friends, and positive quality time spent together (Alegre & Benson, 2019). Additionally, recalled maternal emotional support behaviours during childhood relate to young adults' greater self-disclosure in conversations with friends, and recalled neglectful parenting from the mother during childhood relates to heightened emotionality in social interactions with friends (Black et al., 2007).

As the above evidence illustrates, parenting behaviours and the parent-child relationship are instrumental in fostering positive friendship qualities. Moreover, the memories of these parenting behaviours seem to relate to young adults' friendships. Based on this evidence, the following research study is formed upon the basis that the early bond between a child and their caregiver allows for a specific social-cognitive orientation that relates to the child's perceptions of, and

behaviours in, friendships that can persist into adulthood. The present research intended to replicate past literature that has demonstrated the link between recollections of positive parenting and young adults' friendship quality (Alegre & Benson, 2019; Black et al., 2007; Wise & King, 2008), and expand on such research by examining how cognitive and dispositional factors may moderate the link between recalled positive parenting and young adults' friendship quality.

#### *A. Mindfulness as a Moderator*

Based upon the principles of Buddhist tradition, mindfulness is a relatively new and budding area of psychological research. Mindfulness refers to the practice or tendency to focus attention to the present moment, and to do so without judgement (Kabat-Zinn, 2003). In traditional Buddhism, this definitional framework corresponds to meditation techniques created for the purpose of grounding one's conscious experiences to the present moment in order to fulfill the spiritual conditions of enlightenment as described by the Buddha (Gethin, 2015). More modern definitions of mindfulness refer to present-moment awareness of personal experience in order to achieve a state of psychological and physical well-being (Siegal et al., 2009). From one academic perspective, mindfulness is considered a trait quality that exists on some level across individuals (e.g., Baer et al., 2006). This dispositional quality can be nurtured through training and meditation, as demonstrated by mindfulness training courses focused on the reduction of psychopathologies (e.g., Kiken et al., 2015).

Dispositional mindfulness has been implicated in a variety of social behaviours and perceptions (e.g., Barnes et al., 2007; Donald et al., 2019). Cognitively, those with high levels of dispositional mindfulness perceive their interpersonal relationships differently than those with lower levels of trait mindfulness. For example, it has been consistently demonstrated that individuals who exhibit a mindful disposition have higher levels of relationship satisfaction in the context of romantic relationships (Barnes et al., 2007; Quinn-Nilas, 2020). These highly mindful individuals also report better quality of relationships with coworkers (Mesmer-Magnus et al., 2017). Behaviourally, trait mindfulness has been demonstrated to be associated with prosocial behaviours and attitudes (see Donald et al., 2019 for review), interpersonal forgiveness (Karremans et al., 2020), and positive self-expression in social contexts (Dekeyser et al., 2008). Moreover, research illustrates that mindfulness influences the development and maintenance of emotion regulation skills (Roemer et al., 2015), which may be instrumental in the development of adaptive social interaction tendencies.

Mindfulness has also been investigated specifically in the context of friendship quality (e.g., Dai et al., 2022). Being mindful during social interactions has been linked to more positive friendship quality (Pratscher et al., 2018). In addition, social competence as measured by number of friendships and popularity in friendships has been associated with the levels of dispositional mindfulness in adolescents (Miner, 2007). In a meta-analysis conducted by Dai and colleagues (2022), it was found that mindfulness-based intervention strategies for

children and adolescents are related to positive peer interactions, general improvements in relationship quality with peers, and a decrease in negative peer interactions. Based on this evidence, it is highly likely that mindfulness plays a role in the development of adaptive social tendencies, and for this reason, it was hypothesized that higher dispositional mindfulness levels would have an enhancing effect on the association between recollections of positive parenting and friendship quality.

#### *B. Adaptive Cognitive Modification as a Moderator*

Another manner in which the link between recalled positive parenting and friendship quality may be affected is through cognitive factors, such as changes in cognitions about early experiences between parents and the self. One way that these shifts in cognitions can be measured is by considering how causal attributions made for parental behaviours may positively change between childhood and adulthood, which is herein referred to as adaptive cognitive modification. Attribution theory, originally proposed by Heider (1958), and later expanded by Weiner (1972, 1974, 1985), suggests that individuals construct meaning pertaining to the behaviour of others. The attribution itself is the constructed reason or "allocation of responsibility" (Weiner, 1972, p. 203) for a behaviour or outcome. Attribution theory postulates that human beings seek to identify the reasons for which behaviours occur in order to gain a better understanding of the observed behaviour and to predict future behaviours (Shaver, 2016).

Crick and Dodge (1994) suggest that the way attributions are created inform social adjustment in childhood, where some aspects of attribution formation lead to maladaptive social adjustment, and others may lead to more adaptive adjustment. Dodge et al. (2015) conducted a study encompassing nine countries over the course of four years, in which they found that childhood reactive aggression was significantly related to the tendency to attribute hostile intent to ambiguous social stimuli (the hostile attribution bias). In contrast, adolescents who are less likely to make this hostile attribution bias in response to provocation have been documented as displaying more prosocial behaviours as compared to those who are more likely to have a bias towards attributing hostile intent (Nelson & Crick, 1999).

However, there seems to be a dearth of research regarding the way that children's attributions for the parent's behaviour influences developmental outcomes. Moreover, to the authors' knowledge, there is no research that has investigated how attributions for parents' behaviour may change between childhood and adulthood, and the implications of these changes for children's social functioning. The current study seeks to fill the gap in the literature by investigating how young adults recall the negative attributions they made for their parent's behaviour during childhood, how these attributions change in early adulthood, and how these adaptive cognitive modifications relate to the children's friendships in adulthood.

The current research takes the stance that changes in attributions may reflect a shift in social-cognitive orientations. That is, if an individual modifies their attributions for an event or behaviour, whether intentional or not, they may carry

forward this modification to different situations. This line of reasoning is commonly used in clinical psychology. For example, the seminal work of Aaron Beck (1979) on cognitive reappraisal/restructuring, and the resulting literature, illustrates that training in cognitive modification regarding the causes of negative events leads to shifts in perspectives that impact future behaviours. Theoretically, a modification of the perceptions of negative parenting behaviour may represent a shift in social-cognitive orientations. By measuring changes in attributions for negative parenting behaviour, the current research intended to investigate how adaptive cognitive modifications to perceptions of negative parenting impact the relationship between recalled positive parenting and young adults' relationships with friends.

#### *D. Hypotheses*

Based on the evidence above, the current project held several hypotheses: (1) Recalled positive parenting would be associated with more positive perceptions of current friendship quality, replicating past research, (2) mindfulness would moderate the relationship between recalled positive parenting and current friendship quality, offering an enhancing effect, and (3) adaptive cognitive modification would offer a similar enhancing effect on the relationship between recalled positive parenting and current friendship quality.

## **II. METHODS**

### *A. Participants*

Participants were recruited from an undergraduate psychology pool at Simon Fraser University in British Columbia, Canada. In order to be eligible to enroll in the study, participants had to be at least 17 years of age and had to have lived with a parent or caregiver until the age of 16. There were no exclusion criteria. Ninety-nine of the participants were excluded from analyses due to incomplete survey responses or because they were outliers in age, resulting in a final sample of 626 (81.5% women,  $M_{age} = 19.2$  years,  $SD_{age} = 2.49$ ) to be used for analytic purposes. Participants' ethno-racial backgrounds were largely white (40.3%) and Asian (56.5%), with fewer than 3.2% reporting a different ethno-racial background from the two most frequently reported groups. See table 1 for participant demographic information.

### *B. Procedure*

Participants signed up for the study online via the research participation system at Simon Fraser University. Once they read through the consent form and consented to participate, they were directed to a demographics questionnaire. After completion, they were prompted to complete the measures (described below). Participants completed the survey over the course of an hour and were awarded two credits that contributed to their undergraduate psychology course grade once completed. The procedures for this study were approved by the Simon Fraser University Research Ethics Board (Application Number: 30001752).

### *C. Recall Positive Parenting*

Recalled parenting was measured using a modified version of the Parent Behavior Inventory (PBI; Lovejoy et al., 1999). The PBI measures engaged/supportive parenting, herein referred to as positive parenting. Participants were asked to rate their agreement on a 6-point Likert scale, ranging from "not at all true" (0) to "completely true" (5). The PBI was originally designed as self-report for use with parents, and as such, all questions are posed as being self-referential (e.g., "I have pleasant conversations with my child"). Since this research procedure involved rating parental behaviours retrospectively from the perspective of the child, the questions were adapted to reflect the retrospective reports from the adult child's viewpoint (e.g., "[My parent] would have pleasant conversations with me.").

### *D. Friendship Quality*

To measure friendship quality, the Network of Relationship Questionnaire – Relationship Quality Version (NRQ-RQV; Buhrmester & Furman, 2008) was employed. The NRQ-RQV is a 30-item measure that assesses the quality of an individual's relationship across a number of social agents. In the current study, participants' relationship quality with a close friend was assessed. Participants rated their perceptions of relationship quality, ranging from "never or hardly at all" (1) to "always or extremely much" (5), on questions that address positive relationship quality, referred to by the authors as closeness. Closeness is composed of subscales made up of several questions that assess companionship (e.g., "How often do you spend fun time with this person?"), disclosure (e.g., "How often do you tell this person things that you don't want others to know?"), approval (e.g., "How often does this person praise you for the kind of person you are?"), satisfaction (e.g., "How happy are you with your relationship with this person?"), and affection (e.g., "How much does this person like or love you?"). The scores for all the closeness subscales were put together to create a mean score of participant-rated friendship quality.

### *E. Dispositional Mindfulness*

Dispositional mindfulness was measured using the Revised Cognitive and Affective Mindfulness Scale (CAMS-R; Feldman et al., 2007), a 12-item self-report measure that has consistently been used in mindfulness literature to capture the trait mindfulness tendencies of individuals across a variety of cultures (e.g., Catak, 2012; Chan et al., 2016; Surtaro et al., 2022). The CAMS-R items are rated on a Likert-scale design ranging from "rarely/not at all" (1) to "almost always" (4). An example of some of the items on the CAMS-R include: "I am able to accept the thoughts and feelings I have" and "I can accept things I cannot change". Three items on the CAMS-R were reverse-coded (e.g., "I am easily distracted").

### *F. Adaptive Cognitive Modification*

In order to measure adaptive cognitive modifications for parenting behaviour, a custom measure was constructed based on the Children's Relationship Attribution Measure (CRAM; Fincham et al., 1998). In the CRAM, children are supplied with negative hypothetical scenarios that most children will be familiar with (e.g. "Imagine your dad [mom] yelled at you"

(Fincham et al., 1998, p. 487)). Instead of supplying a negative scenario for the participants, participants were prompted to recall a negative event that occurred between them and a chosen parental figure/caregiver in the first 16 years of life using open-ended text responses. Importantly, the participants were required to “personally remember” the event. This note was added to the prompt because pilot testing of the question resulted in a number of responses regarding events that were told to the adult child later in life, meaning that they could not formulate an attribution for the event at the time that it occurred. Following the reporting of the negative experience, participants were asked to describe what they thought caused the event at the time that it occurred using open-ended text response.

Following these open-ended text responses, participants were asked if their thoughts about the event had changed now that they are in adulthood. If the participant responded that their thoughts have not changed, they were coded as having no adaptive cognitive modification (0). Those who responded that their thoughts had changed were prompted to explain to what/whom they now attribute the negative event to. These open-ended text responses were coded to determine the degree to which adaptive cognitive modification had occurred, described further below in the Analytic Plan section. The following were used as indicators of adaptive cognitive modification: indications of forgiveness, removal of blame from the parent, perspective taking, indications that the event ultimately produced something positive, and indications that the event was not as serious as they originally thought. These variables were coded as being present (1) or absent (0). A mean score was computed using the presence/absence coding, so the mean score for adaptive cognitive modification ranged from 0.0 to 1.0. See table 2 for frequencies of coded variables.

### *G. Analytic Plan*

Analyses of these variables were conducted using moderation analysis through the PROCESS package for SPSS (Hayes, 2012; see figure 1). Two separate models were run, one with mindfulness acting as the moderator and one with adaptive cognitive modification serving as the moderator. Due to the use of multiple analyses, a Bonferroni correction (Dunn, 1961) was employed to control for the likelihood of making an inferential error ( $p = 0.025$ ). Additionally, power analysis was conducted using G\*Power version 3.1.9.7 (Faul et al., 2009) to determine the sample size needed to detect a small effect. Results of this analysis indicated that the obtained sample ( $N = 626$ ) was sufficient for testing the aforementioned hypotheses to reach 80% power with alpha set to 0.025.

#### *a. Coding for Adaptive Cognitive Modification*

Of the 626 eligible participants, 394 (62.8%) indicated that their thoughts about the negative event had changed and were then asked to what/whom they attribute the event to at the present time. The remaining 37.2% of the sample was automatically assigned a code of 0, since the indication that their attributions had not changed was an indicator that no adaptive cognitive modification had occurred and were

therefore excluded from the analysis. In other words, only those who responded that their thoughts had changed had their responses coded for adaptive cognitive modification. An undergraduate research assistant was trained to identify forgiveness, removal of blame, indications that the event was not as serious as it was once perceived, indications that something positive came as a result of the event, and perspective-taking in the participants' open-ended text responses addressing their current attributions for the negative childhood event. The student was trained by the first author by coding 15 responses together first, then independently coding 209 of the 394 responses (53.1%) simultaneously with the first author. As confirmed by Syed and Nelson (2015), gold standards for narrative or open-response coding require independent coding of at least 20% of the data by two individuals; our coding plan exceeded this minimum requirement.

Coding was as follows. For explicit mentions of forgiveness, that the event resulted in something positive, and that the event was not as serious as once perceived, the variable was coded as being present in the open-ended response (1), and (0) if absent. For the perspective-taking variable, the student was trained to identify when the participant was taking on the view of the parent at the time of the event. If the participant took the perspective of the parent, the perspective-taking variable was coded as present (1) and (0) if absent. For the removal-of-blame variable, the student was trained to identify when the participant removed the responsibility for the negative event from the parent, where the blame cognition had been modified to attribute the reason for the event to be something other than the parent themselves (1). If the participant did not modify their blame attribution, the variable was coded as absent (0). Inter-rater reliability across the different coded constructs ranged from Cohen's kappas of .78 to .93, indicating excellent reliability. Discrepant coding was discussed between the first author and undergraduate research assistant. The first author then independently coded the remaining 185 responses.

## **III. RESULTS**

Correlation analyses were conducted for all variables of interest and sociodemographic factors. Recalled positive parenting was weakly positively correlated with dispositional mindfulness, adaptive cognitive modification, and friendship quality. Mindfulness was also weakly positively correlated with friendship quality, age, and being a male. Being a female was negatively correlated with mindfulness in this sample. See table 3 for all correlations between variables of interest.

Analyses revealed a significant direct association between recalled positive parenting and current friendship quality ( $b = 0.067$ ,  $SE = .026$ ,  $p = 0.009$ , 95% CI [.016, .118]), but not between dispositional mindfulness and current friendship quality ( $b = .104$ ,  $SE = .070$ ,  $p = 0.136$ , 95% CI [-.033, .241]). The interaction term (recalled positive parenting x dispositional mindfulness) revealed a moderating effect of mindfulness on the relationship between recalled positive parenting and positive social relationship quality ( $b = .150$ ,  $SE = .050$ ,  $p = 0.003$ , 95% CI [.052, .248]), such that when dispositional mindfulness was moderate to high, the

association between recalled positive parenting and friendship quality was enhanced, whereas there was no effect of mindfulness on the association when dispositional mindfulness was low. See table 4 for direct and interaction effects, and figure 2 for a graphical representation of the interaction effect.

Using the same PROCESS model described above, adaptive cognitive modification was also examined using moderation analysis. While moderation analysis revealed a direct effect of recalled positive parenting on friendship quality ( $b = .070$ ,  $SE = 0.30$ ,  $p = .011$ , 95% CI [.011, .129]), adaptive cognitive modification did not show significant direct effects ( $b = .016$ ,  $SE = .051$ ,  $p = .744$ , 95% CI [-.084, .116]). The interaction effect of adaptive cognitive modification on the relationship between recalled positive parenting and friendship quality was also found to be not statistically significant ( $b = .066$ ,  $SE = .041$ ,  $p = .107$ , 95% CI [-.014, .146]).

#### IV. DISCUSSION

The present study aimed to investigate how dispositional factors, such as mindfulness, and cognitive factors, such as adaptive cognitive modification, impact the association between recalled positive parenting and friendship quality. The above findings indicate that there is a direct relationship between recalled positive parenting and young adults' friendship quality, where increases in recalled positive parenting predicted increases in friendship quality. This was an expected finding, as it replicates past research that has demonstrated the effect of recalled positive parenting during childhood on friendships in adulthood (Alegre & Benson, 2019; Black et al., 2007; Wise & King, 2008).

The current research intended to extend these findings by investigating how both dispositional mindfulness and adaptive cognitive modification moderate this relationship. Findings demonstrated that mindfulness moderated the relationship, such that the link between recalled positive parenting and friendship quality was enhanced when levels of dispositional mindfulness were higher. Given the definition of mindfulness – non-judgemental present-oriented awareness and focus (Kabat-Zinn, 2003) – there are several ways this effect can be interpreted. For one, an individual who has high levels of dispositional mindfulness may be less inclined to judge the behaviours of others as being hostile or negative. An example of this is the finding that decentring, a core principle in mindfulness, is related to decreases in hostile attribution bias in ambiguous social situations (Schans et al., 2020). This is in line with research that has previously shown that mindfulness serves as a protective factor against ruminative thought patterns and negative automatic thoughts (Ayhan & Kavak Budak, 2021; Raes & Williams, 2010). Such findings may be a product of the mindful individual's tendencies to observe inner and outer experiences non-judgementally (Baer et al., 2006). This quality present in highly mindful individuals may allow for the recollection of more positive parenting. In turn, such recollections may carry over into the tendencies brought to friendships, where the mindful individual's social qualities are grounded in the recollections of positive parenting that are formed by non-

judgmental observation. Such an individual may use the same observing and non-judgmental qualities to perceive higher quality of friendships by avoiding the use of maladaptive social inferences such as attributions of hostile intent.

Another explanation for the effect of mindfulness on the relationship between recalled positive parenting and friendship quality stems from research focused on emotion regulation. Research has consistently found that individuals who are highly mindful are more likely to use adaptive emotion regulation tactics (see Chambers et al., 2009 for review). There are several ways in which these emotion regulation skills in highly mindful individuals may foster the development and maintenance of higher-quality friendships. For one, the core tenet of mindfulness that focuses on non-reactivity to and non-judging of experiences may halt emotional reactivity in response to a perceived slight from others. This ability to move past negative emotions that arise as a result of less-than optimal social interactions likely allow the individual to perceive their friendships as being more positive, since they do not dwell upon the negative aspects of the relationship.

The differences in perceptual and emotional processes between low- and high-mindful dispositions outlined above likely relate to distinct patterns of behaviour in the context of interpersonal relations. Conflict and the resolution of conflict, for example, are inherent parts of maintaining a relationship (Canary et al., 1995). The tendency of those with high levels of dispositional mindfulness to perceive the behaviours of others as being more favourable likely influences how conflict is approached, thus resulting in differences in relationship quality as a function of the levels of mindfulness present in the individuals within the social situation. Additionally, the emotion regulation skills that are associated with a mindful disposition likely impact the way the conflict unfolds. These assertions are evidenced by previous literature that has illustrated that individuals who have high dispositional mindfulness have a tendency for constructive methods of conflict resolution such as engaging in dialogue to resolve interpersonal issues, while also avoiding destructive methods such as withdrawal and escalation (Mandal & Lip, 2022). Such differences in relationship maintenance strategies possessed by highly mindful people likely contribute to their perception of positive friendship quality.

While dispositional mindfulness showed a moderating effect on the association between recalled parenting and positive relationship quality, adaptive cognitive modification did not have a significant moderating effect. Until this point, changes in attributions for parenting behaviours had not been investigated, meaning that the role of adaptive cognitive modification in the relationship between recalled parenting and friendship quality was unclear. The current findings suggest that adaptive cognitive modification is not of note in the relationship between recalled positive parenting and friendship quality. There are several reasons for which this may be the case. One possible explanation for the non-significant findings is that changes in thought about an event

that occurred in the past may not accurately represent a tendency for such change. For example, the re-evaluation of an attribution that removes blame from an individual does not mean that the person modifying their attributions will remove blame in the same way in future situations with different people. Similarly, forgiving one individual for a past transgression may not be reflective of the inclination to forgive other individuals in the present.

Another way to explain the non-significant finding of the current research is by examining the differences between parent-child relationships and friendships. Since the relationships themselves exist in different domains, the modifications of attributions for one may be inherently distinct from the modification of attributions for the other. For example, negative events between a parent and a child can often be perceived differently as a product of age, wherein the child comes to recognize the legitimacy of the parent's perspective as they grow older (Canary et al., 1995). Attributional modifications for negative events between friends, however, do not have the same temporal aspect. Thus, the changes in attributions for parenting behaviours may not occur the same way in friendships, meaning that adaptive cognitive modification for parenting behaviours would not be predictive of friendship quality.

It is also possible that the modifications to attributions for parenting behaviours have already been accounted for by recalled positive parenting. The modification to these attributions may very well inform the way that parenting behaviours are remembered, meaning that the adaptive cognitive modification construct is inherently linked to the recollections of positive parenting. If an individual has adaptively modified the attribution for a negative event between themselves and their parent, they may have already internalized this interpretation, and this internalization may impact the way that positive parenting is recalled. For example, if an attribution for an argument between an adolescent and a parent about staying out late has been modified to reflect an understanding of the concerns of the parent for the adolescent's safety, then an internalization of such an understanding may influence the way that other events during childhood are perceived and remembered. This would explain why adaptive cognitive modification did not moderate the relationship, since attributional change for parenting behaviours was confounded by the recollection of parenting.

#### *A. Limitations and Future Directions*

Conclusions drawn from this research must be interpreted with consideration of some limitations. For one, it was not possible to attain real-time attributions and parenting behaviours during childhood. Instead, participants relied on the memories of these variables and reported based on recollection. Researchers frequently question the validity of using retrospective reports of childhood memories (e.g., Halverson Jr., 1988). However, the current research did not intend to supplement longitudinal data with cross-sectional data in order to establish associations with developmental trajectories. Instead, the current research was strictly

interested in describing the relationship between recollections of parenting behaviour and friendship quality, and not the parental behaviours themselves. To establish a causal link between parenting behaviours, childhood attributions, and friendship quality, future research should attempt to obtain attributions for parenting behaviour as they occur (i.e., during childhood) and investigate how these attributions change over time for a more reliable adaptive cognitive modification construct.

Another limitation of the present study involves the demographic factors of the sample. The recruited sample had a significant overrepresentation of women (81.5%) and Asian-background individuals (56.5%). Previous literature has demonstrated that young women's recollections of family environment are more strongly predictive of friendship quality as compared to young men's recollections (Wise & King, 2008). Similarly, cultural differences have been found in how mindfulness scales and parenting scales perform in different societies (Karl et al., 2022; Rodriguez et al., 2023). Future work may explore these demographic components in examining the proposed links in this study.

Also, this research used an undergraduate sample. It is well-known that undergraduate samples are not representative of a particular society or culture, meaning that the results of studies using such samples may have poor external validity. In addition, the results of the current study were obtained using cross-sectional data. Cross-sectional studies limit the degree of causality that can be inferred using data, meaning that this dataset cannot establish a model of cause-and-effect. In order to establish such a link, future research should consider using time-series or even longitudinal data to allow for the drawing of stronger conclusions.

There are also some limitations in the way that specific constructs were measured in the present research. Participants were asked to freely recall a negative event that occurred between themselves and their parent during childhood. The rationale behind this decision was to have participants report an event that is most salient to them, which in theory has a higher likelihood of informing current social behaviours. However, proceeding in this way also has its limitations. Participants may have been influenced to respond to the prompts in a way that makes themselves seem "in the right" in the situation described. This may well be the case for the 38.2% of participants who indicated their thoughts about the negative event had not changed. It is possible that these individuals purposefully chose a situation in which they want to be perceived as being correct, thus validating their thoughts about their own perception of the event. It is also important to note that the PBI (Lovejoy et al., 1999) was modified in the present research to reflect retrospective reports of parenting from the perspective of the adult child. While Lovejoy and colleagues (1999) validated the original scale and its items, a re-validation is warranted to be certain that the modified scale remains psychometrically sound.

There are many other dispositional and cognitive factors beyond mindfulness and adaptive cognitive modification that may impact the relationship between recollections of positive

parenting and friendship quality. Future studies may further the current research by investigating how such factors influence this relationship. Additionally, attributional change for parenting behaviours is a novel concept, and future research on how it relates to other constructs may be interesting. For example, future research may consider how adaptive cognitive modification relates to quality of adult relationships with their parents and the way that individuals find meaning in their life experiences.

## V. CONCLUSION

The present findings highlight the importance of consistent positive parenting throughout childhood, which may in turn relate to stronger friendship quality. Moreover, having high levels of mindfulness appears to allow these individuals to capitalize on their recollections of positive parenting. Our findings emphasize the importance of incorporating extra-dyadic factors when investigating the links between parenting and social functioning outcomes in order to further elucidate the complex inter-relations between parenting and social competence. Although further research is needed, these findings also highlight mindfulness as a potentially critical factor that can be trained among youth using interventions (Dai et al., 2022) and parenting practices (Kil et al., 2023) to boost the downstream effects of receiving positive parenting on youths' later social functioning.

## APPENDIX

TABLE I. SOCIODEMOGRAPHIC CHARACTERISTICS OF THE PARTICIPANTS.

	N	%	M	SD
Gender				
Male	99	15.8		
Female	510	81.5		
Other	17	2.7		
Race/Ethnicity				
White	252	40.3		
Asian	354	56.5		
Other	20	3.2		
Age			19.2	2.49

Note. Under the race/ethnicity heading, "other" refers to participants who were Black, Native Pacific Islander, American Indigenous, Hispanic, or multiracial. "Other" under the gender heading refers to participants who indicated they were a third gender (non-binary, genderfluid) or transgender.

TABLE II. FREQUENCY OF CODED VARIABLES.

	Frequency	%
Removal of blame	152	38.57
Forgiveness	43	10.91
Perspective taking	241	61.16
Seriousness	26	6.59
Good Event	31	7.86

Note. "Seriousness" is representative of indications that the event was not as serious as once perceived, and "Good Event" is representative of indications that something positive came as a result of the event.

Figure 1. Model of Moderation Analyses

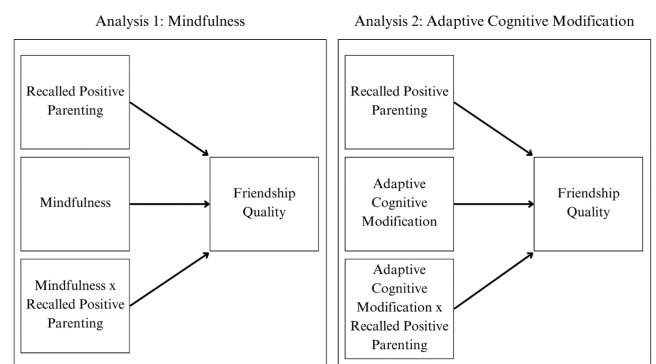


TABLE III. PEARSON'S CORRELATION TABLE.

	a	b	c	d	e	f
(a) Positive Parenting	-					
(b) Mindfulness	.288**	-				
(c) Adaptive Cognitive Modification	.166**	.024	-			
(d) Friendship Quality	.141**	.083*	.014	-		
(e) Age	-.013	.118**	.001	-.144		
(f) Male	.008	.181**	-0.55	-.123	.150**	-
(g) Female	-.009	-.155**	.006	.121	-.122**	-.921**

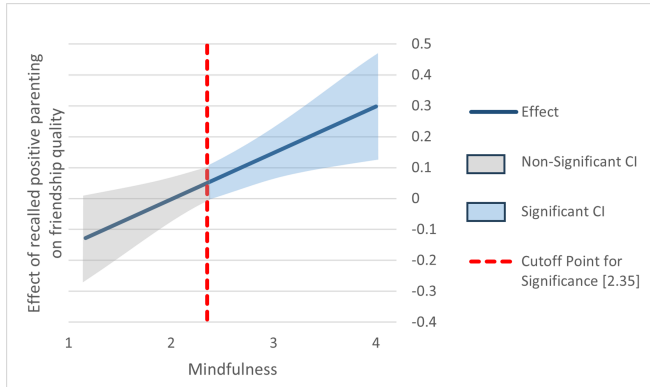
Note. \*= Significant at the 0.05 level; \*\*= significant at the 0.01 level.

TABLE IV. MODERATION EFFECTS OF IVs ON THE DV.

	b	SE	p	t
Positive Parenting	.067	.026	.009	2.609
Mindfulness	.104	.070	.136	1.493
Mindfulness x Positive Parenting	.150	.050	.003	2.991
High Mindfulness	.135	.036	<.001	3.744
Moderate Mindfulness	.073	.024	.006	2.789
Low Mindfulness	-.002	.033	.943	-.072

Note. Positive parenting and mindfulness have been mean-centered.

**Figure 2.** Johnson-Neyman Plot of Regions of Significance



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