Mindfulness
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ORIGINAL PAPER

Youth's Experience of Mindful Parenting: Exploration and Confirmation of a Revised Measure for Youth and a Model of Emotional Adjustment

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Abstract

Objectives Two studies were conducted to evaluate the psychometrics of the Interpersonal Mindfulness in Parenting Measure for Youth (IMPM-Y)—a multidimensional tool to measure mindful parenting experienced by adolescents and young adults. A third study tested a Mindful Parenting Influence Model (MPIM) involving the relations between mindful parenting and youth's dispositional mindfulness, self-compassion, and emotional adjustment.

Method Study 1 collected survey data from 458 youth (aged 17 to 21) to explore the structure and psychometric properties of the IMPM-Y. In Study 2 ($n = 669$ youth aged 16 to 21 years), the IMPM-Y structure was confirmed. Combining data collected in Studies 1 and 2 ($n = 1109$), Study 3 tested direct and indirect effects proposed in the MPIM using regression analyses. Analyses incorporated survey measures of mindful parenting, dispositional mindfulness, self-compassion, general well-being, and social anxiety.

Results The IMPM-Y had four factors with good psychometric properties. Regression analyses revealed significant associations of mindful parenting with youth's better general well-being and lower social anxiety. Additionally, three aspects of mindful parenting had indirect associations with youth's well-being through either dispositional mindfulness or self-compassion: mindful listening with full attention, parental emotional non-reactivity, and child compassion. Similar findings were observed for mindful listening and child compassion in relation to youth's social anxiety. Gender did not moderate any of these associations.

Conclusions The IMPM-Y is a valid and reliable measure of youth's report of mindful parenting, which plays direct and indirect roles—involving youth's mindfulness and self-compassion—in youth's better emotional adjustment.

Preregistration This study was not preregistered.

Keywords Youth · Mindful parenting · Dispositional mindfulness · Self-compassion · Emotional adjustment

Mindful parenting involves parents intentionally bringing moment-to-moment awareness, self-regulation, non-judgment, and compassion to their interactions with their children (Duncan et al., 2009). Mindful parenting has attracted substantial attention in recent years, given the development and popularity of a range of mindfulness-based interventions and parenting programs that show benefits for parental and family functioning and children's positive development (see Kil & Antonacci, 2020 for a review). However, given the multifaceted nature of mindful parenting, more research is needed to identify the specific mindful parenting features crucial for children's adjustment, especially for adolescents and emerging adult children, a period referred to as *youth*. It is in this period of life that children may find mindful parenting to be particularly important as they explore many new aspects of their identity that could require parental non-judgmental support and information (Potterton et al., 2021), and encounter new experiences that can challenge or threaten their emotional and social adjustment and well-being (Larose et al., 2018; Moreira et al., 2018). These exploratory experiences and challenges can overwhelm youth's emotion regulation and coping skills, but parents can play vital roles in listening, supporting, and otherwise

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fostering youth's choices and positive adjustment (Jensen et al., 2024; Lindell et al., 2017; Parra et al., 2019).

The vital role of parents in children's adjustment and development is explained in the tripartite model of family influence (Morris et al., 2007). This model consolidated decades of research on the role of the family and parenting in children's psychological development (Collins et al., 2000; Maccoby, 1992). Three pathways of parent and family influence on children's adjustment are identified in the tripartite model, with all pathways pointing out the mediational role of children's development of emotion regulation skills. Emotion regulation—defined as ways of mitigating the occurrence, duration, and intensity of the internal states of both positive and negative feelings and their associated physiological responses—is identified as a core outcome of parenting that, in turn, supports the maintenance of children's well-being and mental health (Aldao et al., 2010; Bridgett et al., 2015; Morris et al., 2017). The first pathway identified in the tripartite model involves the influence of children's observations and modelling of their parents' behaviours, which can assist them in learning emotion regulation skills through processes like emotion contagion. For example, parents may model emotion regulation strategies verbally and nonverbally that children socially reference. The second pathway involves parenting practices and behaviours, which often involve parents' reactions to their children's emotions and their attempts to soothe them. These behaviours can directly socialise children's emotionality and emotion regulation skills. Finally, the third pathway relates to the emotional climate of the family, which is often captured in measures of parenting style. The emotional climate is also facilitative of children's emotion regulation development.

The multidimensional elements identified as representative of mindful parenting align well with the three aspects of parenting and family functioning that are identified in the tripartite model of family influence (Morris et al., 2007). Mindful parenting involves parents providing a warm environment (emotional climate) and support for their children and includes many other characteristics that are important for children's development of emotion regulation skills (Duncan et al., 2009). These parental characteristics include attention by being present during parent–child interactions, non-judgment by showing acceptance of their children, awareness by attending to children's states of mind (including their cognition and emotion), and compassion by showing children kindness and understanding during challenging or threatening hassles or major life events. Just as described in the tripartite model, mindful parenting would be expected to foster the development of emotion regulation skills and more positive emotional adjustment in youth. Yet, the research on mindful parenting and youth's emotion regulation and adjustment is limited in scope (Townshend et al., 2016), with one review locating only 31 studies in this area—mostly of young adolescents (Mera et al., 2025; see also Ahemaitijiang et al., 2021). Moreover, there are multiple components of mindful parenting, and little is known about how they uniquely relate to emotional adjustment for youth.

When studying the role of mindful parenting in youth's emotional adjustment, dispositional mindfulness and self-compassion may be two interrelated self- and emotion-regulatory skills (ways or behaviours) that are salient mediators (Fig. 1). Dispositional mindfulness and self-compassion involve positive attending and responding to the self, others, and the surrounding environment with awareness and compassion (Bluth & Blanton, 2014; Gouveia et al., 2016). In their extensive work, Gilbert and Choden (2013) view mindfulness and compassion as two essential and interdependent skills that work together to bring about positive changes in people's lives. The first mediator, dispositional mindfulness, has been defined as the awareness that transpires from paying attention intentionally and non-judgmentally to the present moment as it unfolds moment by moment (Kabat-Zinn, 2003). Although often studied as something that can be trained and practiced (Kabat-Zinn, 2013), mindfulness has also been described as a trait or disposition that varies naturally among individuals (Brown et al., 2007). The second mediator, self-compassion, has three key aspects:

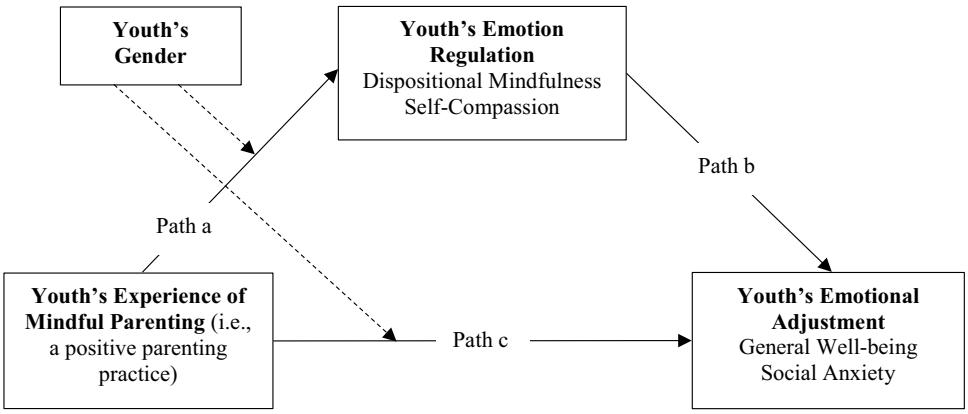

Fig. 1 The Mindful Parenting Influence Model: the proposed mediational model of mindful parenting and youth's dispositional mindfulness, self-compassion, and emotional adjustment. *Note*. Child's gender is proposed as a moderator and age, race/ethnicity, and other relevant demographics (e.g. contact with parents) will be considered as covariates

(1) being kind and understanding towards oneself during times of hardship and/or failures (as opposed to being self-critical); (2) seeing the situation as a common human experience (rather than uncommon and isolating); and (3) having a balanced awareness of painful thoughts and feelings (as opposed to overidentifying oneself with them) (Neff, 2003a, 2003b).

The self- and emotion-regulatory roles of dispositional mindfulness and self-compassion have been supported by findings of moderate to strong relations with better emotion regulation skills. Adolescents (Hambour et al., 2018) and adults (Kerin et al., 2020) who report better emotion regulation are also higher in dispositional mindfulness. Additionally, across community and clinical samples, individuals who report better emotion regulation also report more self-compassion (Diedrich et al., 2014; Inwood & Ferrari, 2018). There is also evidence that, like emotion regulation, dispositional mindfulness and self-compassion are associated with better well-being and fewer symptoms of psychopathology among young people (Calvete et al., 2020; Lathren et al., 2019). Although the two skills of dispositional mindfulness and self-compassion are conceptually different from one another, they are essential for each other and tend to integrate well together (Gilbert & Choden, 2013). For example, during a stressful or challenging situation, dispositional mindfulness focuses on the observing part of difficult thoughts, feelings, and/or actions in the present moment and without judgment, while self-compassion adds an element of caring and support towards oneself during such times. Thus, each may have a unique role in youth's positive adjustment and well-being.

Consistent with the premise of the tripartite model of family influence (Morris et al., 2007), there could be indirect associations of mindful parenting with youth's emotional adjustment via the emotion-regulatory mediators of dispositional mindfulness and self-compassion in youth. There is evidence of indirect effects in past research, although there is a scarcity of studies. In one study, Wang et al. (2018) found mindful parenting to be negatively associated with youth's emotional problems through higher maternal warmth and youth's dispositional mindfulness. Further support comes from a study of 563 parent–child dyads (95.6% mothers, 61.5% female youth, age range = 12–20 years; Moreira et al., 2018). In this study, when the full sample was analysed, mindful parenting was indirectly associated with youth's better general well-being via higher self-compassion, but not dispositional mindfulness. However, when gender was considered as a possible moderator of the indirect associations, there was an indirect effect via dispositional mindfulness for young men, and the indirect effect via self-compassion was mainly noted for young women. Finally, in a study by the current authors (Mera et al., 2023) of 458 youth (aged 17–21 years), it was found that youth's experience of mindful parenting was directly and indirectly associated with youth's emotional adjustment (i.e. general well-being and social anxiety) via dispositional mindfulness and self-compassion. Taken together, both theoretical and empirical evidence have supported indirect effects of mindful parenting with youth's adjustment. Notably, studies have also highlighted that these effects could be conditioned by youth's gender, as was recognised in the tripartite model (Morris et al., 2007).

When considering more specific practices of mindful parenting, some aspects of mindful parenting might not be uniquely associated with youth's outcomes once others are considered. For example, Moreira et al. (2018) found that, of two subscales, it was the mindful parenting subscale of listening with full attention that was associated with more positive general well-being in youth, and this association was significantly indirect through dispositional mindfulness, but not self-compassion. The mindful parenting subscale of compassion for the child did not have significant indirect associations with more positive general well-being among youth via either dispositional mindfulness or self-compassion. In contrast, a related study by Moreira and Canavarro (2020) involving 375 mother-youth dyads (59.5% females, aged 12 to 19 years) showed evidence that only parents' report of the mindful parenting subscale of compassion for the child was indirectly associated with youth's reduced difficulties in emotion regulation via higher youth's self-compassion. Relatedly, in a study of 572 parent-adolescent dyads (59.1% females, youth age range = 12–18 years), Gouveia et al. (2018) showed parents' report of the mindful parenting subscale of compassion for the child to be indirectly associated with less emotional eating among youth through higher youth's self-compassion. As previously noted, the tripartite model recognises that the associations of parenting and parent–child relationships with children's emotional regulation and their psychological adjustment are likely to be conditioned by child characteristics, such as gender or temperament (Morris et al., 2007). In addition, there are empirical findings that suggest some of the relations of parenting with youth's dispositional mindfulness, self-compassion, or emotional adjustment may differ when comparing boys and girls. For example, girls are seen to be typically better at regulating their emotions compared to boys, and this may result in stronger associations of emotion regulation and adjustment outcomes for girls compared to boys (Morris et al., 2002, 2007). However, the few tests of gender moderation available in the existing literature have produced mixed results. For example, Moreira and Canavarro (2020) and Park et al. (2020) tested gender moderation but found no evidence that the associations between mindful parenting and symptoms of emotional problems differed for girls and boys. In contrast, Gouveia et al. (2018) found significant associations among young women but not young men.

Considering all the above, three studies were conducted in the current research with the purpose of identifying features of mindful parenting from the youth's perspective that related to their emotional adjustment via the mediators of youth's dispositional mindfulness and self-compassion (Fig. 1). There were two key aims of the studies. The first aim, addressed in Studies 1 and 2, was to test the reliability and validity of a youth-report measure of mindful parenting by refining an existing multidimensional parent-report scale to fit self-report by youth aged 16 to 21 years. The second aim, addressed in Study 3, was to test a mediational model—the Mindful Parenting Influence Model (MPIM). The MPIM was founded upon the tripartite model of family influence (Morris et al., 2007), with modifications derived from past research to focus on mindful parenting and its practices, dispositional mindfulness, self-compassion, and youth's emotional adjustment. Given the theory that points out the possibility of gender moderation, as well as some empirical support, the current research investigated youth's gender as a possible moderator of the associations of mindful parenting practices with youth's emotional adjustment via the two mediators of dispositional mindfulness and self-compassion. However, these analyses were exploratory—no hypothesis was made regarding gender moderation. Several demographics, such as age and race/ethnicity, were included in the hypothesis testing as covariates.

The measures of youth's adjustment in the MPIM included two commonly used indicators, namely general emotional well-being and social anxiety (Costello et al., 2011; Duffy et al., 2019; Jones, 2013; Moreira & Canavarro, 2018; Pedrelli et al., 2015). General emotional well-being is an overarching feeling of positivity based on subjective evaluations, including a high level of emotional well-being or pleasant affect (e.g. joy, pride, affection, happiness) and a low level of emotional problems or unpleasant affect (e.g. anger, guilt, anxiety, depression) (Diener & Ryan, 2009; Diener et al., 1999). General well-being has been examined in past research on mindful parenting by measuring psychological well-being or life satisfaction as reported by children or adolescents (e.g. Li et al., 2023; Liu et al., 2021; Medeiros et al., 2016; Moreira et al., 2018; Potharst et al., 2018), while poor emotional well-being is often measured as symptoms of internalising problems, such as depression and anxiety, with social anxiety being the most common form of anxiety (e.g. Acet & Oliver, 2023; Calvete et al., 2021; Geurtzen et al., 2015; Han et al., 2021; Parent & DiMarzio, 2021).

Two general hypotheses were tested in the three conducted studies. First, it was hypothesised (H1) that youth who report experiencing more mindful parenting will report more of other measured positive parenting practices and fewer negative parenting practices, validating the youth-report measure of mindful parenting. Second, it was hypothesised (H2) that youth's dispositional mindfulness and self-compassion will mediate one or more of the associations between youth's experience of mindful parenting practices and their emotional adjustment (i.e. general well-being and social anxiety), supporting the MPIM.

Study 1

The aim of Study 1 was to explore the factor structure of the Interpersonal Mindfulness in Parenting Measure for Youth (IMPM-Y). In addition, the reliability and validity of the IMPM-Y were investigated.

Method

Participants

The participants were 470 university students (350 young women, 118 young men, 2 non-binary/other) aged 17 to 21 years ($M = 18.83$, $SD = 1.25$). Participants reported their racial/ethnic background by ticking all that applied: 71% reported White, 13% Asian, 12% Australian First People/Torres Strait Islander or Pacific Islander, and 14% "other" (e.g. African, Middle Eastern). For student status, 93% were full-time and 7% part-time students. In addition, 58% worked part-time, 2% worked full-time, and 40% did not hold paid employment. Of the 470 students, 71% lived at home with at least one parent, 27% did not live with a parent but had regular contact, and the remaining 2% ($n = 12$) did not live with or have contact with their parents and were excluded from analyses, leaving a final sample size of 458. Among them, 78% were psychology students who participated for partial course credit (0.5%) and the remaining 22% were drawn from other student groups. Among those 458 students with contact, 75% reported daily contact, 24% reported almost weekly but not daily contact, and the remaining 1% reported less frequent contact. Of those with contact, 83% completed parenting measures about their mother and 17% reported about their father.

Overall, 552 youth met inclusion criteria and accessed the survey. Among them, 65 students were excluded for excessive missing data (i.e. 23 did not complete any items, 18 completed only part of the first measure, and 24 had missing data on multiple measures). In addition, two items were included as attention checks, and five students were excluded because they answered both incorrectly. Finally, 15 students completed the survey in < 8.5 min (i.e. less than half the median completion time of 17 min) and were excluded due to the high risk of randomly responding without reading the items. Three of those students were previously excluded due to answering both item checks incorrectly.

Measures

Mindful parenting The most widely used measure of mindful parenting is a parent-report measure—the Interpersonal Mindfulness in Parenting Scale (IMP; de Bruin et al., 2014; Duncan, 2007; Duncan et al., 2009). The original IMP consisted of 8 items and included four factors of present-centred attention in parenting, present-centred emotional awareness in parenting, non-reactivity in parenting, and non-judgmental acceptance in parenting (Duncan, 2007). Duncan et al. (2009) proposed a more comprehensive model of mindful parenting and later offered an expanded English measure of IMP (consisting of 31 items), which was subsequently assessed across three studies in the Netherlands (de Bruin et al., 2014). All three studies showed support for a six-factor structure of mindful parenting, which had one additional factor compared to the original model by Duncan et al. (2009). Moreira and Canavarro (2017) showed similar results to de Bruin et al. (2014) when testing the psychometric properties of the expanded IMP measure using a Portuguese version.

A smaller number of studies have asked young people to report about their experience of mindful parenting. Four studies could be located that modified the IMP to collect data from youth. Acet and Oliver (2023) developed parent and youth measures of mindful parenting based on Duncan et al. (2009)'s model and collected data from 90 mother-adolescent dyads. They conducted multiple-group confirmatory factor analysis (CFA) involving the parent and youth's measures and identified a four-factor structure for both. Their youth measure consisted of 18 items and had four subscales of self-regulation in parenting (6 items), acceptance and compassion towards the child (5 items), being in the moment with the child (4 items), and awareness of the child (3 items). This measure was not available at the time of conducting this research. The other three studies included a study by Liu et al. (2021), who developed a youth measure based on the original IMP, and two related studies that developed a similar measure based on the expanded IMP (Coatsworth et al., 2015; Lippold et al., 2015). The latter two studies were co-authored by Duncan, and they collected data from young adolescents (similar to Acet & Oliver, 2023). The measure used by Coatsworth et al. (2015) consisted of 16 items and similarly had four subscales of listening with full attention (4 items), self-regulation in parenting (2 items), emotional awareness of youth (2 items), and compassion for youth (8 items). The measure used by Lippold et al. (2015) consisted of 19 items and had four subscales (as per the other authors), including listening with full attention, self-regulation, emotional awareness in parenting, and non-judgmental acceptance and compassion.

Given that all of the previously developed and tested youth measures mentioned above targeted young adolescents, we expanded the English IMP measure—creating the Interpersonal Mindfulness in Parenting Measure for Youth (IMPM-Y)—by making modifications appropriate for completion by Australian youth in the late adolescent and early adulthood years. The IMPM-Y captures the child's observation, perception, and memory of their parent's mindful practices (e.g. listening and compassion skills). Older teens and young adults have had many opportunities to observe a range of parents' behaviours included on the measure of mindful parenting, and as reported in past research on parenting (e.g. Skinner et al., 2005), youth's perceptions of their parenting were expected to be relevant to their own patterns of behaviour and emotional adjustment. However, it is noted that research has found low-to-moderate correspondence between parents' and children's reports of family functioning (De Los Reyes & Ohannessian, 2016), although more recent evidence suggested moderate to strong associations between parent and youth's reports of mindful parenting and its practices (Acet & Oliver, 2023; Liu et al., 2021). Thus, youth's perception of the parenting they received may not always reflect what their parents would report. Nevertheless, it is less clear whether one reporter is more accurate than the other.

To measure mindful parenting, items from the expanded IMP were modified by rewording all applicable items, so that they could be reported by youth about their parents. For example, the item "I listen carefully to my child's ideas, even when I disagree with them" was reworded as "My parents listen carefully to my ideas even when they might disagree with them". The parent-report form of this measure had six subscales, as per the factor structure of the Dutch version of the IMP proposed by de Bruin et al. (2014). These included listening with full attention (LFA), compassion for child (CC), non-judgmental acceptance of parental functioning (NJAPF), emotional non-reactivity in parenting (ENRP), emotional awareness of child (EAC), and emotional awareness of self (EAS). In total, 19 items from the IMP were modified and included in this measure to capture youth's reports of their parents listening, compassion, emotional non-reactivity, and emotional awareness. Two subscales, non-judgmental acceptance of parental functioning and emotional awareness of the self, were dropped for the youth report given that the items were designed to capture aspects of parents' personal mindfulness more so than behaviours in reference to the child or parenting.

Before completing any questions about parenting, participants were asked to choose among three options (i.e. currently live at home with a parent or both parents, do not live with a parent but have regular contact with a parent, do not live with or have contact with parents). For participants with some contact with a parent, they nominated a parent they felt closest to and completed the IMPM-Y items (e.g. "I think it is hard for my parent to tell how I am feeling") using responses from 1 = *never or almost never true* to 5 = *always*

or almost always true. See the Results section for details regarding the psychometric properties of the IMPM-Y and the formation of composite scores.

Validation Measures (Parenting Practices) Positive parenting practices (warmth and autonomy support, eight items, e.g. "My parent enjoys being with me") and negative parenting practices (rejection and coercion, eight items, e.g. "My parent bosses me") were measured with the youth-report version of the Parents as Social Context Questionnaire (PSCQ; Skinner et al., 2005). Responses to each item ranged from 1 = *never or almost never true* to 5 = *always or almost always true*. Items on each subscale were averaged so that higher scores indicated higher levels of positive or negative parenting practices. Items on these subscales had good interitem consistency, with Cronbach's $\alpha = 0.92$ for positive parenting items and Cronbach's $\alpha = 0.88$ for negative parenting items.

Procedure

The study was advertised to the psychology student subject pool and via broadcast email advertising. All advertisements included a link to an online survey. Upon accessing the survey, participants were presented with the study information sheet and were informed that by proceeding they agreed to provide their consent to take part in the study. Following this, participants were presented with the study criteria (i.e. students aged 21 years or younger). Students who were not part of the psychology student subject pool were offered entry into a draw to win one of two AU$50 shopping vouchers.

Data Analyses

SPSS v26 was used to conduct the data analyses, including initial data preparation, missing value analysis, and exploratory factor analysis (EFA) for the mindful parenting items. The main analysis involved EFA to assess the factor structure of the mindful parenting—youth-report items. The factor analysis was conducted using maximum likelihood extraction with an oblique rotation. Positive parenting had a negative skew (skew statistic = −10.47) and a positive kurtosis (kurtosis statistic = 6.47), showing differences in outcomes with and without transformation. As such, a logarithmic transformation was applied, which reduced the skew (skew statistic = 2.96) and the kurtosis (kurtosis statistic = 2.82). Other variables had only minor skew and low kurtosis, so they were not transformed. Listwise deletion was employed to exclude all incomplete cases.

Results

Factor Analysis: IMPM-Y Measure

Sampling adequacy ($KMO = 0.943$) and sphericity ($p < 0.001$) of the IMPM-Y items were met, supporting factor analysis. This is according to the cut-off values identified by Shrestha (2021), where *KMO* is between 0.8 and 1.0 and sphericity is significant and < 0.05. Thus, factor analysis was conducted with the 19 items of the IMPM-Y by limiting the extraction to four factors, aligning with the expected number of factors. Table 1 displays the item loadings and eigenvalues for the four factors. Overall, four factors had eigenvalues of 1 or higher, and the scree plot pointed to four factors as the best solution. This was supported by a solid pattern of item loadings on all four factors, with 57.0% of the variance in the items accounted for by the four-factor solution. The four extracted factors were consistent with de Bruin et al. (2014) and their reports of two child-related components (i.e. emotional awareness of the child, compassion for the child) and two parent–child relationship components (i.e. emotional non-reactivity in parenting, listening with full attention). Therefore, these factors were named according to the four subscales on the parent-report version of the IMP. Seven items, which reflected emotional non-reactivity in parenting (or "non-reactivity" for short), loaded on Factor 1, with loadings ranging from 0.45 to 0.64 (Table 1). Three items, which reflected children's perceptions of their parents' emotional awareness, loaded on Factor 2 (called "emotional awareness of child" or "child awareness" for short), with loadings ranging from |0.52| to |0.96|. Four items, which were consistent with children's perception of their parents' listening with full attention, loaded on Factor 3 (called "listening with full attention" or "listening" for short), with loadings ranging from 0.42 to 0.74. Finally, three items, which reflected children's perceptions of their parents' compassion, loaded on Factor 4 (called "compassion for child" or "child compassion" for short), with loadings ranging from |0.43| to |0.94|. Two items (i.e. "Trouble accepting my individuation", "Regretting parenting actions when upset") had low factor loadings across all factors (i.e. ranging between 0.05 and 0.28), and as such, these items were excluded from the final measure to be used in the next study, leaving 17 items. No items had loadings above 0.35 on more than one factor, so no complex items were identified.

Reliability and Validity of the IMPM-Y

Cronbach's α values for items loading highly on each of the four factors were high, ranging between 0.83 and 0.89 (Table 1). Also, the factors were positively correlated with each other (r ranged from 0.48 to 0.67), and the internal consistency for all 17 items was excellent ($\alpha = 0.94$). To assess

Table 1 Study 1 - Results of maximum likelihood exploratory factor analysis of the interpersonal mindfulness in parenting measure for youth (IMPM-Y) ($n=458$) and Study 2 Confirmatory factor analysis of the IMPM-Y ($n=669$)

IMPM-Y items	Study 1 factor loadings				Study 2 factor loadings			
	ENRP	EAC	LFA	CC	ENRP	EAC	LFA	CC
Calmly tell their feelings when upset with me	0.64				0.77			
Emotional reactivity in response to my behaviour.[a]	0.52				0.48			
Nonjudgmental listening to me	0.50				0.79			
React too quickly to me.[a]	0.50				0.51			
Non-reactivity in difficult moments with me	0.49				0.58			
Nonjudgmental receptivity to my emotion	0.46				0.84			
Openness to my point of view	0.45				0.84			
Aware of my unspoken feelings		−0.96				0.80		
Aware of my worries		−0.75				0.82		
Unaware of my feelings.[a]		−0.52				0.64		
Distracted while engaged with me.[a]			0.74				0.70	
Rushing through activities with me.[a]			0.66				0.65	
Not listening to me with full attention.[a]			0.59				0.80	
Pay attention to me when together			0.42				0.71	
Kind to me when upset				−0.94				0.81
Caring for me when struggling				−0.74				0.87
Patient with me when struggling				−0.43				0.89
Regretting parenting actions when upset.[a]	–	–	–	–				
Trouble accepting my individuation.[a]	–	–	–	–				
Eigenvalues	9.14	1.28	1.23	1.00				
Cronbach's α	0.86	0.83	0.85	0.89	0.87	0.79	0.81	0.89

ENRP emotional non-reactivity in parenting, *EAC* emotional awareness of child, *LFA* listening with full attention, *CC* compassion for child. [a]Item was reverse coded prior to analysis. Summary items are shown as per de Bruin et al. (2014)'s study. Only the factor loadings with the highest loading on that factor are shown. Loadings under 0.30 have been suppressed under EFA analysis for Study 1. These items were excluded from the Study 2 CFA models

the validity of the IMPM-Y, the items that loaded highly on each factor were averaged and correlated with positive and negative parenting scores. The four mindful parenting subscales were positively associated with positive parenting (r ranged from 0.63 to 0.82), as well as negatively associated with negative parenting (r ranged from −0.52 to −0.73). Also, a composite score formed by averaging all 17 items (i.e. total mindful parenting) had a high correlation with positive parenting practices ($r=0.83$) and negative parenting practices ($r=-0.79$), supporting the validity of the total score (H1).

Study 2

The aim of Study 2 was to confirm the four-factor structure of the IMPM-Y. In addition, reliabilities were reported for the full IMPM-Y and its four subscales, and mindful parenting scores were compared between mothers, fathers, and both parents.

Method

Participants

The participants were 678 university students (514 women, 159 men, and 5 non-binary/other) aged 16 to 21 years ($M=19.03$, $SD=1.08$). Participants reported their racial/ethnic background by ticking all that applied, with 75% reporting White, 12% Asian, 8% Australian First People/Torres Strait Islander or Pacific Islander, and 15% "other" (e.g. African, Middle Eastern). For student status, 93% were full-time and 7% part-time students. For work status, 71% worked part-time, 5% worked full-time, and 24% did not hold paid employment. For living arrangements, 68% lived at home with at least one parent, 31% reported that they did not live with a parent but had regular contact, and the remaining 1% ($n=9$) did not live with or have contact with their parents and were excluded from analyses, leaving a final sample size of 669 for the CFA. Among them, 86% were psychology students who participated for partial course credit (0.5%) and 14% were drawn from other

student groups. Among the 669 with parent contact, 64% reported daily contact, 33% reported almost weekly but not daily contact, and the remaining 3% reported less frequent contact. Overall, 32% completed parenting measures about their mother (or female caregiver), 5% reported about their father (or male caregiver), and 63% reported about both their parents (see the Results section for comparisons of these three groups).

An additional 90 students accessed the online survey and were within the age range but were excluded for excessive missing data (56 did not complete any items and 34 had missing data on multiple measures, including the IMPM-Y measure). In addition, 28 students completed the survey in < 8.5 min (i.e. half the median completion time of 17 min) and were excluded due to the high risk of randomly responding without reading items.

Procedure

The study was advertised following the same procedure and study criteria as per Study 1. Students who were not part of the psychology student subject pool were offered entry into a draw to win one of five AU$50 shopping vouchers.

Measures

Mindful Parenting The final 17-item IMPM-Y from Study 1 was completed by the participants with two minor changes. First, items were administered in a different order to control for possible order effects when participants responded to these items in a particular order. Second, students were given the option to respond in relation to either their mother/female caregiver, their father/male caregiver, or both their parents/caregivers to allow comparisons among these groups in terms of mindful parenting practices.

Data Analyses

Confirmatory factor analyses (CFA) were conducted using R version 4.1.2 (R Core Team, 2021) and R Studio version 2021.09.1 + 372. CFA analyses were performed using the Lavaan package v0.6–10 (Rosseel, 2012). Two CFA models were tested. The first model (Model 1) tested a four-factor structure, freeing the covariances between the four factors. The second model (Model 2) tested a hierarchical structure with the four factors freed to load on a single higher-order IMPM-Y factor. Listwise deletion was employed to exclude all incomplete cases.

Results

Confirmatory Factor Analysis: IMPM-Y Measure

The Model 1 (four-factor) CFA had an adequate fit to the data, $\chi^2(113) = 772.45$, $p < 0.001$; RMSEA = 0.09, 90% CI = 0.09–0.10; SRMR = 0.07; CFI = 0.90, TLI = 0.89, GFI = 0.86, AGFI = 0.81, NFI = 0.89, IFI = 0.91. After freeing two covariances between item residuals for one factor (emotional non-reactivity in parenting) based on reviewing the modification indices, the fit of the model was acceptable (based on several cut-off values as set by Schermelleh-Engel et al. (2003), $\chi^2(111) = 633.84$, $p < 0.001$; RMSEA = 0.08, 90% CI = (0.08–0.09); SRMR = 0.06; CFI = 0.92, TLI = 0.91, GFI = 0.89, AGFI = 0.85, NFI = 0.91, IFI = 0.92. The loadings across the four factors were uniformly high, ranging from 0.48 to 0.89 (Table 1). The correlations between the four factors ranged between 0.66 and 0.91.

The Model 2 (higher-order factor) CFA (freeing the two covariances between residuals) had a similar fit as Model 1, $\chi^2(113) = 635.94$, $p < 0.001$; RMSEA = 0.08, 90% CI = (0.08–0.09); SRMR = 0.06; CFI = 0.92, TLI = 0.91, GFI = 0.89, AGFI = 0.85, NFI = 0.91, IFI = 0.92. The four latent factors of mindful parenting (i.e. emotional non-reactivity in parenting, emotional awareness of child, listening with full attention, and compassion for child) loaded highly on a higher-order IMP factor, with loadings of 0.98, 0.82, 0.80, and 0.93, respectively.

Reliability of the IMP

Cronbach's α values for items loading highly on each of the four factors were high, ranging between 0.79 and 0.89 (Table 1). The internal consistency for all 17 items was excellent ($\alpha = 0.94$).

Mindful Parenting Comparison of Reporting About Mother, Father, or Both

The four mindful parenting subscales were compared between youth who reported about their mother, their father, or both parents. After adjusting the p-value for multiple tests (0.05/4 = 0.0125), only child awareness was found to significantly differ between reporting groups, $F(2, 666) = 6.85$, $p = 0.001$. Post hoc tests showed youth who chose to report about their father reported significantly lower child awareness compared to those who reported about their mother or both parents. However, the effect size as measured by Omega squared (which adjusts for group size differences) was very small and negligible, with the lower value of the 95% confidence interval equal to 0.

Study 3

The aim of Study 3 was to test the MPIM of youth's emotional adjustment. Associations were tested between mindful parenting and youth's emotional adjustment outcomes measured as their general well-being and social anxiety, as mediated via youth's dispositional mindfulness and self-compassion.

Method

Participants

The participants were the combined group of 1130 university students (aged 16 to 21 years, $M = 18.94$, $SD = 1.16$) from Study 1 and Study 2 (75% young women, 24% young men, and 1% non-binary/other). See Studies 1 and 2 for demographic and other information. A total of 18 additional participants were excluded from this study because of missing values on measures other than mindful parenting, which were missing completely at random (MCAR) based on Little's MCAR test (i.e. $\chi^2(29) = 36.76$, $p = 0.152$). Of the 1130 students with completed data, 2% ($n = 21$) did not live with or have contact with their parents and were excluded from analyses. Hence, analyses were conducted including the remaining 1109 participants. Among them, 83% were psychology students who participated for partial course credit (0.5%) and 17% were drawn from other student groups. For analyses involving gender, the six participants who reported other gender were excluded, leaving a sample size of 1103.

Measures

Mindful Parenting As described in Studies 1 and 2, the IMPM-Y contains 17 items that measure four aspects of mindful parenting: emotional non-reactivity in parenting, listening with full attention, emotional awareness of the child, and compassion for the child, Cronbach's $\alpha = 0.87$, 0.82, 0.81, 0.89, respectively. After reverse scoring some items, the items under each subscale were averaged so that a higher score indicated a higher level of its corresponding mindful parenting practice.

Dispositional Mindfulness The 15-item Short Form of the Five Facet Mindfulness Questionnaire (SF-FFMQ; Abujaradeh et al., 2019) was used to assess youth's dispositional mindfulness (e.g. "In difficult situations, I can pause without immediately reacting"). The SF-FFMQ has items that fit the components of dispositional mindfulness including acting with awareness (four items), describing (three items), non-judgment (four items), and non-reactivity (four items). Responses to each item ranged from 1 = *never or almost never true* to 5 = *always or almost always true*. After reverse scoring some items, all 15 items were averaged so that a higher score indicated a higher level of dispositional mindfulness, Cronbach's $\alpha = 0.84$.

Self-Compassion Self-compassion was measured with the Self-Compassion Scale (SCS; Neff, 2003a). Three subscales of self-kindness (5 items), common humanity (4 items), and mindfulness (4 items) were used. Participants rated each item (e.g. "When I am going through a very hard time, I give myself the caring and tenderness I need") from 1 = *never or almost never true* to 5 = *always or almost always true*. Items were averaged so that a higher score indicated a higher level of self-compassion, Cronbach's $\alpha = 0.93$.

General Well-Being The ten-item KIDSCREEN-10 (Ravens-Sieberer et al., 2010) was used to assess well-being. Given the age and status of the participants, one item was revised to refer to "university" rather than "school". Items focus on physical activity/energy, mood/emotions, structure/leisure time, parent/friend relationship qualities, and cognitive capacity/performance satisfaction at university. Participants were asked to respond to statements (e.g. "Have you felt lonely?"*)* using 5-point Likert scales. The response categories for two items (i.e. "Have you felt fit and well?" and "Have you got on well at university?") ranged from 1 = *not at all* to 5 = *extremely*, and for all others, ranged from 1 = *never* to 5 = *always*. After reverse scoring some items, all ten items were averaged so that a higher score indicated more positive general well-being, Cronbach's $\alpha = 0.80$.

Social Anxiety In Study 1, participants completed the Social Anxiety Scale for Adolescents (SAS-A; La Greca & Lopez, 1998). The SAS-A has 18 items that focus on fear of negative evaluation, social avoidance and distress to new situations or unfamiliar peers, and social avoidance and distress in general. Participants rated each item (e.g. "I feel shy even with peers I know very well") from 1 = *not at all* to 5 = *all the time*. Items were averaged so that a higher score indicated a higher level of social anxiety, Cronbach's $\alpha = 0.95$.

Data Analyses

SPSS v26 was used for data preparation and missing value analysis. The primary data analyses of *t*-tests, correlations, and regressions were conducted using R version 4.1.2 (R Core Team, 2021) and R Studio version 2021.09.1 + 372. Regression analyses to test direct and indirect effects were performed using the R Psych package v2.2.3 (Revelle, 2022). Independent groups *t*-tests compared young men and women, along with students who participated to receive course credit versus those from other student groups.

Pearson's correlations were estimated to examine associations between all key variables. Finally, regression analyses were conducted to test all direct associations, as well as the indirect associations of the four mindful parenting subscales with youth's general well-being and social anxiety (H2) via youth's dispositional mindfulness and self-compassion. The analyses also involved testing whether the direct or indirect effects were moderated by gender. Two models were estimated, one for well-being and one for social anxiety. In each model, the four mindful parenting subscale scores were the independent variables along with two mediators of dispositional mindfulness and self-compassion. Gender was entered as a covariate and tested as a moderator. Age, ethnicity (White/non-White), and contact with parents (daily/other) were included as covariates. Living status (with parents/other) was not included as a covariate here given it was positively and highly correlated with contact with parents and had mostly small and often non-significant associations with the study variables. Another potential covariate was nominated parent (i.e. reporting about mother, father, or both parents); however, this could not be used since the options differed between Study 1 and Study 2. The 95% bootstrapped confidence intervals to test the indirect effects were generated using 10,000 samples.

Assumptions of the analyses were investigated, and, unless otherwise reported, these were considered met. The subscale child compassion had a negative skew statistic (exceeding |10|) and a positive kurtosis (i.e. kurtosis value = 0.71). However, results were not impacted when a logarithmic transformation was applied to this variable, so the results reported below are based on the untransformed measure of child compassion. All other variables had minor skew and low kurtosis. Listwise deletion was employed to exclude all incomplete cases.

Results

Descriptive and Correlational Analyses

Young men and women were compared on all measures using independent-samples *t*-tests. Mindful parenting did not differ by gender, $t(554) = 1.88$, $p = 0.061$. Similarly, there were no gender differences for child awareness, $t(507) = -0.81$, $p = 0.420$, and child compassion, $t(504) = 0.55$, $p = 0.582$. Yet, young men reported their parents were higher in emotional non-reactivity, $t(553) = 3.03$, $p = 0.003$, and listening with full attention, $t(529) = 2.25$, $p = 0.025$, compared to young women. Young men also had higher scores for dispositional mindfulness, self-compassion, and well-being compared to young women, with *t*-values ranging from 4.93 to 6.96, *df* values ranging from 459 to 512, all $p < 0.001$, and young men were lower in social anxiety compared to young women, $t(211) = -3.09$, $p = 0.002$. Independent groups *t*-tests were also conducted to compare groups with different motivations for participation in the current research (i.e. psychology students receiving course credit versus those from other student groups). The results showed no significant differences between these two groups ($p > 0.05$), apart from slightly higher dispositional mindfulness reported by students receiving course credit ($M = 2.94$) compared to those from other student groups ($M = 2.81$), $t(266) = 2.79$, $p = 0.006$.

Table 2 presents the descriptive statistics for the main study variables and correlations between variables. As expected, most measures were significantly intercorrelated. There were significant positive associations of mindful parenting and all four subscales with youth's dispositional mindfulness and self-compassion. Mindful parenting and its subscales had significant positive correlations with well-being and significant negative correlations with social anxiety. Dispositional mindfulness and self-compassion correlated positively with each other and with well-being and negatively with social anxiety. In terms of demographic variables, age was significantly positively correlated with child compassion, self-compassion, and well-being, and race/ethnicity (non-White relative to White) was associated with multiple measures, including mindful parenting, self-compassion, and social anxiety. All associations relevant to age and race/ethnicity were small. Finally, living with parents (relative to living elsewhere) and daily contact (relative to less frequent contact) had some significant but small associations with mindful parenting, as well as some other measures.

The MPIM of General Well-Being

In the MPIM of youth's general well-being, three outliers were highly influential in the analyses and were excluded from the analyses reported below, leaving a final sample size of 1100. The model was significant, $F(10, 1{,}089) = 80.66$, $p < 0.001$, explaining 43% of the variance. Gender did not moderate any associations in this model. Given this, the gender interaction effects were removed from the model, resulting in the associations shown in Fig. 2. As can be seen, significant positive associations were found between two mindful parenting subscales (i.e. non-reactivity and listening) and dispositional mindfulness, and two mindful parenting subscales (i.e. non-reactivity and child compassion) and self-compassion. In addition, the mediators—dispositional mindfulness and self-compassion—were positively associated with well-being. Moreover, three mindful parenting subscales—child awareness, listening, and child compassion—were significantly positively associated with well-being. No demographic factor other than gender was associated with dispositional mindfulness, self-compassion, or well-being in this model. Three indirect effects were significant, supporting H2 (Table 3). The indirect effect from the mindful parenting subscale of listening to well-being

Table 2 Study 3 - Means (M) and standard deviations (SD) of all measures, and correlations between all measures with 95% confidence intervals in brackets ($n = 1109$ for all correlations apart from social anxiety where $n = 458$)

Variable	*M*	*SD*	1	2	3	4	5	6	7
1. Mindful Parenting	3.32	0.76							
2. MP Non-Reactivity	3.06	0.82	0.93*** [0.92, 0.94]						
3. MP Child Awareness	3.18	0.97	0.80*** [0.78, 0.82]	0.64*** [0.60, 0.67]					
4. MP Listening	3.51	0.83	0.82*** [0.80, 0.84]	0.67*** [0.63, 0.70]	0.57*** [0.53, 0.61]				
5. MP Child Compassion	3.83	0.97	0.88*** [0.86, 0.89]	0.76*** [0.74, 0.79]	0.67*** [0.63, 0.70]	0.64*** [0.60, 0.67]			
6. Disp. Mindfulness	2.91	0.55	0.30*** [0.25, 0.35]	0.27*** [0.22, 0.33]	0.23*** [0.17, 0.28]	0.30*** [0.24, 0.35]	0.23*** [0.17, 0.28]		
7. Self-Compassion	3.18	0.76	0.33*** [0.27, 0.38]	0.32*** [0.27, 0.37]	0.25*** [0.19, 0.30]	0.22*** [0.16, 0.28]	0.32*** [0.27, 0.37]	0.52*** [0.48, 0.56]	
8. Well-being	3.14	0.60	0.42*** [0.37, 0.46]	0.36*** [0.31, 0.41]	0.33*** [0.28, 0.38]	0.38*** [0.33, 0.43]	0.38*** [0.33, 0.43]	0.53*** [0.49, 0.57]	0.49*** [0.45, 0.54]
9. Social Anxiety	3.06	0.92	−0.26*** [−0.35, −0.18]	−0.22*** [−0.30, −0.13]	−0.21*** [−0.30, −0.12]	−0.29*** [−0.38, −0.21]	−0.19*** [−0.28, −0.10]	−0.61*** [−0.66, −0.55]	−0.44*** [−0.51, −0.36]
10. Age	18.94	1.16	0.04 [−0.01, 0.10]	0.03 [−0.03, 0.09]	0.05 [−0.01, 0.10]	0.03 [−0.03, 0.08]	0.06* [0.00, 0.12]	0.03 [−0.03, 0.08]	0.10** [0.04, 0.16]
11. Gender	–	–	−0.04 [−0.10, 0.02]	−0.08* [−0.13, −0.02]	0.03 [−0.03, 0.09]	−0.05 [−0.11, 0.01]	−0.01 [−0.07, 0.05]	−0.15*** [−0.21, −0.10]	−0.13*** [−0.19, −0.07]
12. Ethnicity (non-White)	–	–	−0.07* [−0.13, −0.01]	−0.07* [−0.13, −0.01]	−0.06* [−0.12, −0.00]	−0.04 [−0.09, 0.02]	−0.09** [−0.15, −0.03]	0.01 [−0.05, 0.07]	0.08** [0.02, 0.14]
13. Living Status (with parent/s)	–	–	−0.08** [−0.14, −0.03]	−0.09** [−0.15, −0.03]	−0.03 [−0.09, 0.03]	−0.07* [−0.13, −0.01]	−0.08** [−0.14, −0.02]	−0.02 [−0.08, 0.04]	−0.04 [−0.10, 0.02]
14. Contact with Parents (daily)	–	–	0.09** [0.03, 0.15]	0.07* [0.01, 0.12]	0.11*** [0.05, 0.17]	0.07* [0.01, 0.13]	0.09** [0.03, 0.14]	0.07* [0.01, 0.13]	0.07* [0.01, 0.13]

Variable	8	9	10	11	12	13
1. Mindful Parenting						
2. MP Non-Reactivity						
3. MP Child Awareness						
4. MP Listening						
5. MP Child Compassion						
6. Disp. Mindfulness						
7. Self-Compassion						
8. Well-being						
9. Social Anxiety	−0.42*** [−0.49, −0.34]					
10. Age	0.06* [0.00, 0.12]	−0.02 [−0.11, 0.07]				
11. Gender	−0.20*** [−0.25, −0.14]	0.13** [0.04, 0.22]	−0.05 [−0.11, 0.01]			
12. Ethnicity (non-White)	0.05 [−0.01, 0.11]	−0.15** [−0.23, −0.06]	0.08* [0.02, 0.13]	−0.04 [−0.10, 0.02]		

Table 2 (continued)

Variable	*M*	*SD*	1	2	3	4	5	6	7
13. Living Status (with parent/s)	−0.02	0.02	−0.22***	−0.02	0.02				
	[−0.08, 0.04]	[−0.07, 0.11]	[−0.28, −0.17]	[−0.08, 0.04]	[−0.04, 0.08]				
14. Contact with Parents (daily)	0.04	−0.07	−0.18***	0.06	0.07*		0.63***		
	[−0.02, 0.10]	[−0.16, 0.02]	[−0.24, −0.13]	[−0.00, 0.11]	[0.01, 0.12]		[0.59, 0.66]		

*$p < 0.05$. **$p < 0.01$. ***$p < 0.001$. MP = Mindful Parenting. [a] Subscales of the Interpersonal Mindfulness in Parenting Measure for Youth (Mindful Parenting). Disp = Dispositional. Gender was coded 0 = men, 1 = women. Ethnicity was coded 0 = White, 1 = other. Living Status was coded 0 = other, 1 = with parent(s). Contact with Parents was coded 0 = other, 1 = daily

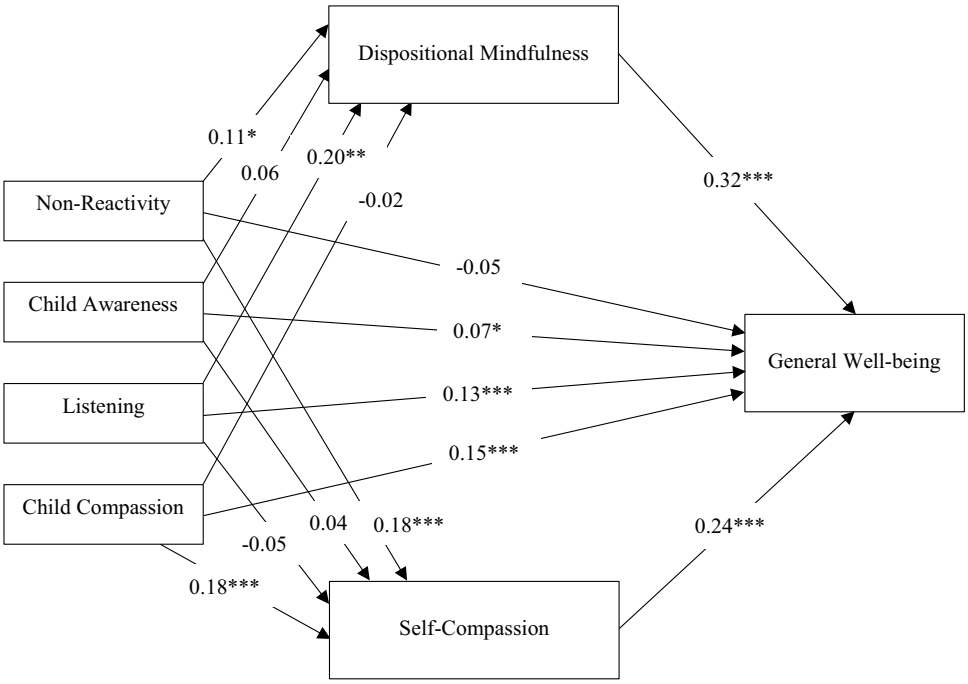

Fig. 2 Direct associations in the Mindful Parenting Influence Model of general well-being ($n = 1100$). *Note.* *$p < 0.05$. ***$p < 0.001$. Child's age, gender, ethnicity, and contact with parents were included as covariates. Only gender was associated with well-being, with young women lower in well-being than young men (−0.11***)

via dispositional mindfulness was significant and positive, and the indirect effects from two mindful parenting subscales—non-reactivity and child compassion—to well-being via self-compassion were significant and positive.

The MPIM of Social Anxiety

The MPIM of youth's social anxiety was tested with the 456 participants from Study 1. The model was significant, $F(10, 445) = 32.53$, $p < 0.001$, explaining 42% of the variance in anxiety. Gender was not a moderator; these interactions with gender were removed from the model before presenting the results in Fig. 3. Significant positive associations were found between mindful listening with full attention and dispositional mindfulness. Additionally, mindful non-reactivity and child compassion were associated with more self-compassion. Further, both mediators—dispositional mindfulness and self-compassion—were negatively associated with social anxiety. Only the mindful parenting subscale of listening was associated with less social anxiety. Regarding the covariates, race/ethnicity was associated with anxiety, with non-White participants lower in anxiety than White participants. No other demographic factor was associated with dispositional mindfulness, self-compassion, or social anxiety in this model. Two indirect effects were also significant, supporting H2 (Table 3). The indirect effect from the mindful parenting subscale of listening to social anxiety via dispositional mindfulness was significant and negative, as was the indirect effect from child compassion to social anxiety via self-compassion.

General Discussion

Studies 1 and 2 were conducted to investigate the factor structure and psychometric properties of the IMPM-Y—a youth-report measure of mindful parenting designed for

Table 3 Study 3 - Indirect effects from testing the Mindful Parenting Influence Model separately for youth's general well-being and social anxiety

	General Well-being ($n=1100$)			Social Anxiety ($n=456$)		
	B	*95% CI*	β	*B*	*95% CI*	β
Indirect Effects of MP Non-Reactivity						
Total indirect effect	0.06[s]	0.02, 0.09	0.08	−0.09	−0.19, 0.00	−0.08
Indirect effect via DM	0.03	0.00, 0.05	0.04	−0.07	−0.14, 0.01	−0.06
Indirect effect via SC	0.03[s]	0.01, 0.05	0.04	−0.03	−0.06, 0.00	−0.02
Indirect Effects of MP Child Awareness						
Total indirect effect	0.02	−0.01, 0.05	0.03	−0.02	−0.09, 0.05	−0.02
Indirect effect via DM	0.01	0.00, 0.03	0.02	−0.02	−0.09, 0.04	−0.03
Indirect effect via SC	0.01	−0.01, 0.02	0.01	0.00	−0.01, 0.03	0.00
Indirect Effects of MP Listening						
Total indirect effect	0.04[s]	0.01, 0.07	0.05	−0.10[s]	−0.19, −0.02	−0.10
Indirect effect via DM	0.05[s]	0.03, 0.07	0.06	−0.11[s]	−0.18, −0.04	−0.10
Indirect effect via SC	−0.01	−0.02, 0.01	−0.01	0.00	−0.02, 0.03	0.00
Indirect Effects of MP Child Compassion						
Total indirect effect	0.02	0.00, 0.05	0.04	−0.03	−0.11, 0.06	−0.03
Indirect effect via DM	0.00	−0.02, 0.01	−0.01	0.01	−0.06, 0.08	0.01
Indirect effect via SC	0.03[s]	0.01, 0.04	0.04	−0.03[s]	−0.07, −0.01	−0.03

MP mindful parenting. *DM* dispositional mindfulness. *SC* self-compassion. [s]Significantly larger or smaller than 0 based on the bootstrapped confidence interval

older adolescents and young adults. After establishing four components of the IMPM-Y and the reliability and validity of the measure, two MPIMs were tested in Study 3, which combined data from Studies 1 and 2. Results from Study 3 showed that youth who reported experiencing more mindful parenting, especially reporting that their parents were higher in listening with full attention and child compassion, also reported better emotional adjustment—indicated by more positive general well-being and fewer social anxiety symptoms. Further, youth who reported that their parents were less emotionally reactive (i.e. higher in emotional non-reactivity) and were higher in child awareness also reported

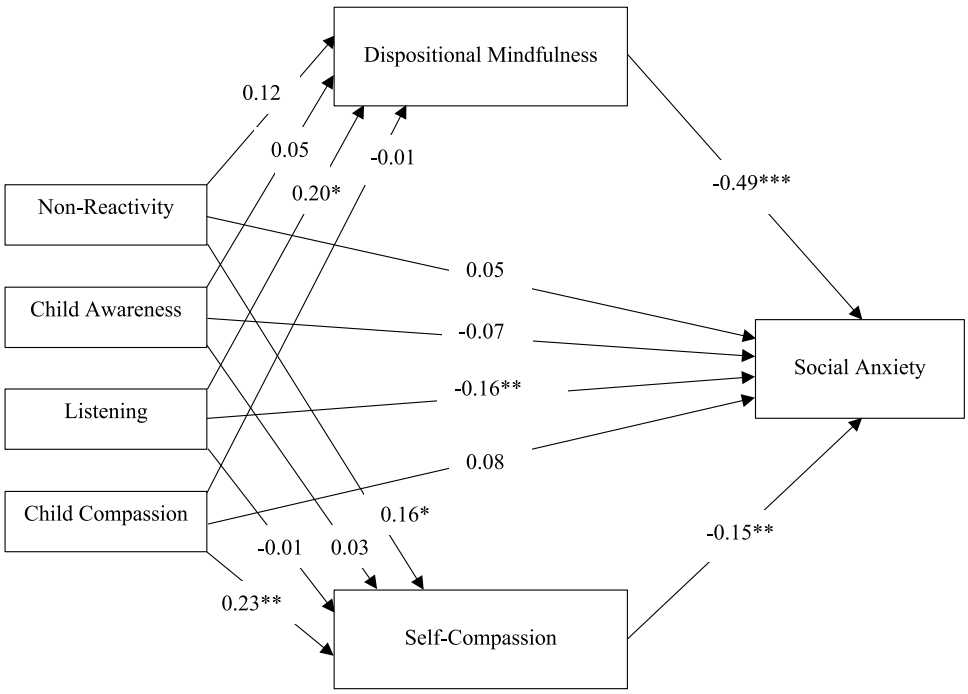

Fig. 3 Direct associations in the Mindful Parenting Influence Model of social anxiety ($n=456$). *Note.* $^{*}p<0.05$. $^{**}p<0.01$. $^{***}p<0.001$. Child's age, gender, ethnicity, and contact with parents were included as covariates. Only race/ethnicity was associated with social anxiety, with non-White lower in social anxiety than White participants (−0.13***)

better general well-being. A proportion of these associations between parenting and youth's adjustment were also indirect via youth's own dispositional mindfulness or their self-compassion. There were indirect associations involving youth's dispositional mindfulness for parents' mindful listening with full attention as related to better general well-being and less social anxiety. Similarly, there were indirect associations involving youth's self-compassion for parents' mindful child compassion as related to better general well-being and less social anxiety and for parental emotional non-reactivity as related to better general well-being. There was no evidence that any association differed for young men compared to young women, given that gender was not found to moderate any of the links under the two tested models.

The Factor Structure of IMPM-Y

The items on the IMPM-Y revealed a four-factor structure. The final measure assessed in Study 1 consisted of 17 items and showed excellent reliability and evidence of construct validity. Further, the IMPM-Y structure was confirmed in Study 2, using both a hierarchical four-factor model of mindful parenting and a non-hierarchical model, and demonstrated further evidence of its reliability. These outcomes showed support for using a total score of youth's experience of mindful parenting as well as the use of four subscale scores. Thus, youth's report of mindful parenting results in four separable but covarying aspects. These include youth's reports of (1) listening with full attention that identifies youth's perceptions of their parents' attention by listening to them during parent–child interactions; (2) emotional non-reactivity in parenting that identifies youth's perceptions of their parents' non-reactivity when interacting with them; (3) emotional awareness of the child that captures youth's perceptions of their parents' awareness of their everyday unspoken feelings and emotions (e.g. worries they might have); and (4) compassion for the child that captures youth's perceptions of their parents' display of compassion and acceptance towards them (e.g. caring when struggling). Notably, the four factors align with the subscales on a parent report of mindful parenting measure analysed by de Bruin et al. (2014). These included the child-related components (i.e. emotional awareness of the child, compassion for the child) and those related to the parent–child interactions (i.e. listening with full attention, emotional non-reactivity in parenting). Further, this four-factor structure is also consistent with past findings of youth measures of mindful parenting that targeted younger adolescents (i.e.Acet & Oliver, 2023; Coatsworth et al., 2015; Lippold et al., 2015). Acet and Oliver (2023) conducted the only previous factor analysis of a measure designed for youth's report of mindful parenting. The measure they analysed was based on Duncan et al. (2009)'s model, and their findings converge with current findings despite having a different item set and a smaller and younger sample (i.e. $n = 90$ early adolescents).

It was notable that the mindful parenting scores did not differ when comparing youth who selected to report about their mother, father, or both parents, apart from scores relating to child awareness. Youth who chose to report about their father reported significantly lower levels of child awareness compared to those who reported about their mother or both parents. However, the effect size was negligible. Further, only 37 participants chose to report about their fathers compared to 212 who reported about their mother and 420 who reported about both parents. As such, possible differences among these groups could be investigated further in future research.

Mindful Parenting and Youth's Emotional Adjustment

The analyses in Study 3 investigated the MPIM, a model of mindful parenting influence that was inspired by the tripartite model of family influence (Morris et al., 2007). In the tripartite model, positive (or less negative) parenting practices are described as a foundation for children's emotional and social development, highlighting how these associations can be indirect through children's development of emotion regulation skills. Findings from the current study were consistent with the premises of this model, whereby all subscales of mindful parenting had correlations with youth's better general well-being and lower social anxiety. Also, in multivariate analyses, there was strong support for the indirect effects of mindful parenting on youth's emotional adjustment via the two emotion-regulatory mediators of youth's dispositional mindfulness and self-compassion for most subscales of mindful parenting. All four subscales of mindful parenting were associated, either directly and/or indirectly, with one or both indicators of youth's emotional adjustment. Also, aspects of mindful parenting—mindful listening with full attention, child compassion, and emotional non-reactivity—had indirect relations with youth's adjustment through either dispositional mindfulness or self-compassion of youth. Taken together, the findings suggest that a present, attentive, engaged, and calm parent who shows compassion when supporting their youth during difficult times is directly linked to youth's better emotional adjustment, as well as indirectly linked to such outcomes via youth's own dispositional mindfulness and self-compassion. Youth's dispositional mindfulness and self-compassion then further support their own emotional well-being above and beyond the direct roles of these mindful parenting behaviours themselves.

In terms of mediation in the MPIM via youth's dispositional mindfulness, the findings show that, when youth perceive that their parents give their full listening attention

more often, they experience higher dispositional mindfulness, with mindfulness, in turn, associated with their better general well-being and fewer symptoms of social anxiety. These findings generally converge with the findings of Moreira et al. (2018), who found a role for parental listening with full attention and compassion for the child in their study of youth's general well-being. One possible explanation for the role of mindful listening with full attention in parents is its known positive association with greater dispositional mindfulness among parents (Gouveia et al., 2016). This association suggests that mindful listening could involve interactions with children that model or directly coach and socialise dispositional mindfulness—such as the capacity to be in the present moment and refrain from judgment. Moreover, when parents engage in mindful listening while interacting with their children, they are likely to display behaviours that illustrate their full attention. These behaviours could include showing attentiveness to the activities or issues of importance that they are engaging in together without rushing. These parental actions may both display and foster youth's capacity to practice awareness of the present moment and other similar mindfulness skills when they interact with their peers or others outside their home environment. In turn, these mindfulness skills in youth could allow access to more ways to successfully adapt and cope with conditions that may threaten emotional well-being (Dvořáková et al., 2019). This may be an added benefit alongside just having parents who engage in more mindful listening with full attention, which can directly foster youth's positive well-being by having parents who are perceived to listen attentively and (possibly) provide more appropriate support.

In terms of mediation in the MPIM via youth's self-compassion, the findings suggest that youth's perception of their parents' display of compassion towards them, as well as their perception of more parental emotional non-reactivity, relates to their own greater self-compassion; self-compassion, in turn, is associated with youth's better general well-being and/or reduced social anxiety. The current findings are consistent with a past study that found self-compassion to mediate the association between the mindful parenting subscale of child compassion (as reported by parents) and youth's lower emotional dysregulation (Moreira & Canavarro, 2020). In contrast, the present findings were inconsistent with the findings by Moreira et al. (2018), who did not find self-compassion to mediate the association between the mindful child compassion subscale (as reported by parents) and youth's general well-being. Despite such inconsistency across studies, the associations involving self-compassion as a mediator in the present research suggest that, among the four components of mindful parenting, it is parents' greater displays of compassion towards their children and emotional non-reactivity that may be most directly modelling, coaching, and socialising self-compassion in youth. Together, these mindful parenting behaviours are likely teaching youth about practices that soothe negative emotions and the role of compassionate responding in effective soothing and more generally coping with stress. These experiences could then help youth to practice ways to be more self-compassionate and channel their parents' strategies for non-reactivity, with self-soothing, self-compassion, and better emotion regulation, which all then relate to their better well-being, as found in past research (Bluth & Blanton, 2014; Ewert et al., 2021; Gouveia et al., 2016; Morris et al., 2017). Another possibility derived from past research might involve parents' invalidation of children's emotions, which can accompany parental emotional dysregulation, as relevant for the development of internalising symptoms in children (Buckholdt et al., 2014). Thus, compassion and non-reactivity may also imply that parents more often validate their children's emotions, helping them to avoid emotional distress and promoting their greater well-being and reduced anxiety. Also, our findings indicate that there are direct benefits from the emotional (and possibly other forms of) support from parents that accompanies their compassionate and more calm interactions with their children (less emotionally reactive and catastrophising), which are likely to be especially important when assisting youth to cope with stressors and other difficulties in their lives.

Gender Moderation Under the Proposed Model

There was no evidence of gender moderation when testing the two MPIM models as they relate to youth report of mindful parenting. Although there have been mixed findings in past research, the current findings are consistent with Moreira and Canavarro (2020), who found no evidence that gender moderated the indirect association of parents' report of compassion for the child with youth's reduced difficulties in emotion regulation via their higher self-compassion. Nevertheless, there was a gender imbalance in the present study that could have had an impact on the results. Future developmental research could be conducted with groups of adolescents and young adults across a variety of ages to examine age and gender as individual and joint moderators.

Limitations and Future Research

The current research has five key limitations that can be addressed in future research on mindful parenting in youth. First, relying on youth reports of all measures could have introduced common method bias (Podsakoff et al., 2012). Past research shows low-to-moderate correspondence between parent and youth reports of family functioning (De Los Reyes & Ohannessian, 2016), although more recent evidence suggests moderate to strong associations between

parent and youth's reports of mindful parenting and its practices (Acet & Oliver, 2023; Liu et al., 2021). Future research could consider including reports from parents and their children regarding mindful parenting and its practices to examine their intercorrelations and identify similarities and differences in associations with children/youth's emotional regulation (i.e. dispositional mindfulness and self-compassion) and measures of emotional adjustment.

Second, the participating youth reported diverse sociocultural backgrounds, but they were all residing in Australia. As such, the results obtained here might not be generalisable to other racial/ethnic or sociocultural groups. Most notably, mindfulness might be conceptualised (i.e. defined or understood) differently in a Western versus Eastern culture, with the latter placing more emphasis on body sensations (e.g. breathing) to create a calm mental state (Carmody, 2014). Evidence of some differences in research findings has been noted between cultures in relation to mindful parenting (Ahemaitijiang et al., 2021).

Third, the use of a cross-sectional design limits the conclusions that can be drawn regarding causal effects and the direction of associations presented here. Past research that tested a similar mediational model (using positive parenting practices and other emotion regulation skills in youth) has found evidence for the longitudinal associations among these similar variables (e.g. Fosco et al., 2012). However, given that no other studies were identified that had tested similar models to those tested in the current research using a longitudinal design, the analyses conducted here are useful prior to conducting time-intensive and expensive longitudinal research. Future longitudinal research will be important for identifying how changes in youth's perception of mindful parenting could explain changes in their emotional regulation and adjustment over time. Moreover, past research has found vicious or virtuous cycles among parent and child factors, whereby children/youth's problematic behaviours evoke less positive parenting practices in their own parents, and their improved behaviours encourage enhanced parenting (Kim & Gonzales, 2021; Ladd & Parke, 2021; Newton et al., 2014). Using a longitudinal design will enable testing the bidirectionality of the associations tested under Study 3, while also testing if well-adjusted youth evoke more mindful parenting practices in their parents.

Fourth, care was taken in the current studies to allow participants to report on the parent they spent the most time with and to gather information about their time together. There were some small differences in reports about mothers and fathers, even though most youth chose to report about their mothers. Previous research has also shown gender differences in some dimensions of mindful parenting and how they may be related to parent–child relationship quality and behavioural outcomes in youth (Coatsworth et al., 2015), with mothers reporting higher levels of mindful parenting compared to fathers (Medeiros et al., 2016). More recently, a three-wave longitudinal study (conducted at 6 monthly intervals) has shown that maternal mindful parenting mediated the relationship between maternal anxiety and youth's emotional and behavioural difficulties, with no mediating effects found for fathers, apart from marginal bidirectional links between paternal mindful parenting and youth's difficulties (Larrucea-Iruretagoyena & Orue, 2023). These findings are consistent with other research in general parenting practices comparing mothers to fathers and finding that practices can differ and might have different associations with youth's emotional and social outcomes (Flynn et al., 2018). Consequently, future research could benefit from investigating whether the associations of mindful parenting with youth's mindfulness, self-compassion, and adjustment differ when data are collected about mothers separate from fathers.

Finally, there is overlap between mindful parenting and other general positive parenting practices (e.g. warmth and affection) and negative parenting practices (e.g. hostility and over-reactivity; Parent et al., 2016). However, it has been argued that the current conceptualisations and measures of mindful parenting capture not only specific behaviours that reflect positive parenting practices but also other unique aspects of parenting, which involve listening to children with full attention, being emotionally aware of their experiences, and showing them compassion and acceptance during challenging times. Although only limited studies have investigated the unique role of such specific mindful parenting practices in youth's adjustment, well-being, or mental health, their results have shown mindful parenting to have unique correlational benefits (both concurrently and longitudinally) for youth when considered alongside other more general parenting practices (Acet & Oliver, 2023; Geurtzen et al., 2015; Park et al., 2020). Given such findings, future research could further investigate the unique benefits of mindful parenting and its practices by testing whether the mediational pathways uncovered under the MPIM persist when controlling for other positive parenting practices, such as warmth and involvement.

Conclusion

The unique contribution of the current research stems from being one of the first to investigate youth's perception of mindful parenting during the period of late adolescence to early adult years, by developing a measure for youth and testing mediational models of youth-perceived mindful parenting as linked with their general psychological well-being and social anxiety. The findings from the present research supported a four-factor structure of the IMPM-Y—a youth-report measure of mindful parenting that included listening with full attention, parental emotional non-reactivity, emotional awareness of the child,

and compassion for the child. The findings also supported the Mindful Parenting Influence Model (MPIM) showing that mindful parenting practices are related to greater dispositional mindfulness and self-compassion in youth, with these in turn, linked with youth's better emotional adjustment (i.e. improved general well-being and reduced social anxiety). Furthermore, it was notable that the associations in the MPIM did not differ between young men and young women. The current findings could be incorporated into prevention and intervention programs that target parents/caregivers and other adults involved in children's lives, such as teachers and coaches. All social partners important for youth development could benefit from practices in mindfulness, such as listening with full attention, being low in emotional reactivity during challenging times, and showing compassion. These practices would be expected to contribute to children's more positive emotional adjustment. As described in past research on children's perceptions of their teachers' mindfulness, these displays involve being calm, clear, and kind rather than reactive, distracted, and critical (Rickert et al., 2020). We have found here that mindful parenting, which involves these expressions as perceived by youth during parent–child interactions, is also of benefit even for youth's own dispositional mindfulness and self-compassion, which further support their emotional adjustment and well-being.

Author Contribution SM and MZG contributed to the study conception and material preparation. All authors participated in the study design. SM performed data collection, statistical analyses, and data interpretation and drafted the manuscript; MZG critically reviewed the data collection process, statistical analyses, interpretation of the data, and drafting of the manuscript; EC helped with data collection, statistical analyses, interpretation of the data, and revision of the drafting of the manuscript. All authors read and approved the final manuscript.

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Data Availability The datafile along with the study's materials and the code used for conducting data analyses (i.e. R code) can be made available upon a written request to the corresponding author.

Declarations

Ethics Approval Ethical approval was obtained from Griffith University Human Research Ethics Committee (Ethics Approval Number: 2020/129). We certify that the study was performed in accordance with the ethical standards as laid down by the university's Ethics Committee.

Informed Consent Informed consent was obtained from all individual participants included in the study to participate in this research and to publish the study's findings in an academic article.

Use of Artificial Intelligence We acknowledge that AI tools have not been used to produce any parts of this work.

Conflict of interest The authors declare no competing interests.

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