

An intergenerational study of parental bonding on perceptions of parental and spousal criticism and marital relationship quality in Singapore

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Abstract

Criticism is a form of interpersonal social rejection and destructive conflict behavior which has been associated with poor relationship outcomes in both parent–child and marital relationships. However, the role of the individual's perceptions of parental and spousal criticism in influencing the perceptions of criticism of other members in the family unit has not been examined. This study investigated the associations between parental bonding and perceptions of parental and spousal criticism across generations in Singapore. In all, 134 Singaporean married parent dyads (G2) and one child (G3) of each dyad were recruited. G2 parent participants completed the Perceived Criticism measure for their parents (G1) and spouses, the Parental Bonding Instrument and the Quality of Marriage Index. G3 children participants completed the Perceived Criticism measure for their parents (G2). Path analysis found that G2 perceptions of parental bonding were significant predictors of G2's perceptions of G1 parental criticism, which significantly predicted both G2's perceptions of spousal criticism and G3's perceptions of G2 parental criticism. Perceptions of spousal criticism were also found to predict marital relationship quality in G2 participants. Findings highlight the intergenerational transmission of perceptions of criticism across relationships in the family unit, providing support that parenting practices and communication patterns in one generation can predict those in the next generation in the Singaporean context. Future studies can look to replicate the findings in other

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cultures and include further investigations into sibling relationships as well.

KEYWORDS

intergeneration transmission, interparental conflict, parental bonding, parent–child relationship, perceived criticism

INTRODUCTION

Parenting styles and parental attitudes contribute to the emotional climate of the parent–child relationship (Darling & Steinberg, 1993). Parenting is often conceptualized along two dimensions: (i) demandingness (or control or strictness) and (ii) responsiveness (or acceptance or warmth) and support (Lamborn et al., 1991; Maccoby, 1992). Parenting styles have been identified based on the level of demandingness and responsiveness (Baumrind, 1991; Maccoby & Martin, 1983), where authoritative parenting is characterized by high warmth and control, whereas authoritarian parenting is characterized by low warmth and high control. Similarly, parental bonding is conceptualized by Parker et al. (1979) along two dimensions: (i) care, which is construed as affection and warmth, and (ii) overprotection, which is characterized by intrusiveness and control, which are characteristics of the core dimensions in parent–child interactions. Given that parent–child interactions influence information processing and emotion regulation (Fortuna & Roisman, 2008; Ward et al., 2006), parental bonding has been linked with socioemotional development. For example, lower maternal care was found to be associated with enhanced attentional bias toward negative stimuli in individuals with negative mood (Ingram & Ritter, 2000). Higher maternal care was also associated with more positive and fewer negative thoughts (Ingram et al., 2001). Specifically, perceived parental care showed a positive association with the quality of socioemotional development, where less internalizing and externalizing problems were observed with perceived optimal parental care in a Singaporean sample (Ong et al., 2018). In addition, parental bonding has been associated with psychological functioning and psychopathology risk, where high care and appropriate protection have been related to healthy psychological functioning (Meites et al., 2012). Conversely, parental bonding has been linked to psychopathology such as depression, anxiety disorders, and eating disorders (e.g., Overbeek et al., 2007; Picardi et al., 2013; Sato et al., 2000), where a number of studies has previously indicated low care and/or overprotection as risk factors for psychopathology (e.g., Enns et al., 2002; Handa et al., 2009; Ohtaki et al., 2017).

Specifically, critical, punitive, or neglectful caretakers can result in the development of affective structures and negative cognitive schemas in children (Ingram et al., 1998). Parental criticism can be in relation to adolescent behavior and attitudes such as disobedience, laziness, or verbalized expressions of disapproval (Harris & Howard, 1984) or be appearance-focused (e.g., Biolcati et al., 2020), where criticism has been observed to be one of the common types of verbal aggression shown by parents (Morimoto & Sharma, 2004). Parental bonding has also been found to be related to an individual's perceptions of criticism, where parental care predicted lower tendencies to perceive criticism as destructive, whereas parental overprotection predicted greater tendencies to perceived criticism as destructive (Neoh et al., 2021). These findings point toward the relationship between parental bonding and individual perceptions of criticism encountered across relationships.

An extensive body of research has demonstrated the relationship between parenting in the family and romantic relationship quality in later life (Simons et al., 2014), where parenting practices shape behaviors, cognitions, and emotions related to romantic relationships (Collins & van Dulmen, 2006). Children raised with greater parental warmth and less harsh parenting tend to have a more positive worldview and expectations of pleasant and enjoyable interactions with others (Bretherton & Munholland, 1999), where positive attributions may

imply greater romantic relationship satisfaction (Fincham, 2001). Accordingly, recalled parental warmth and harsh parenting were positively associated with relationship satisfaction, with similar findings for parenting in childhood and adolescence in prospective longitudinal studies (e.g., Donnellan et al., 2005; Parade et al., 2012). In terms of parenting styles, there are fewer studies investigating their relationship with romantic relationship outcomes (e.g., Li & Zheng, 2021). For example, Li and Zheng (2021) found significant associations between parental bonding on romantic relationship quality, where individuals with harsh parenting styles were more likely to adopt a fast life-history strategy, which was negatively associated with romantic relationship quality. In a study conducted in a Singaporean sample, Cho et al. (2020) found that authoritative parenting styles in mothers showed (i) a significant positive association with compromise, but (ii) significant negative association with commitment in romantic relationships. Hence, it can be expected that children who experience criticism as a prominent feature of the parent–child relationship may harbor expectations of criticism in other relationships in their social environment, such as romantic relationships. As such, this study aims to further investigate how parental bonding affects perceptions of parental criticism and spousal criticism in a Singaporean sample.

Early experiences, including the parent–child relationship, influence children's socioemotional development and quality of their relationships across development (Conger et al., 2009). According to attachment theory, there is an extension and generalization of beliefs and expectations about the self and close others to other close relationships, influencing how one thinks, behaves, and functions in these close relationships (Bowlby, 1969, 1973; Bretherton, 1985). Parent–child attachment quality has been argued to guide how these interpersonal schemas develop, affecting expectations regarding social partners and romantic relationship quality (River et al., 2022). Parental bonding has been linked with adult attachment styles in a number of studies (e.g., Matsuoka et al., 2006; Shi, 2010; Sun et al., 2010). For example, paternal care and maternal overprotection significantly predicted secure attachment in Japanese young adults (Matsuoka et al., 2006). A cross-cultural comparison also indicated that there were differing relationships between parental bonding dimensions and attachment-related anxiety and avoidance across samples from Japan, Spain, and Italy (Hoenicka et al., 2022). Parent–child interaction quality, such as parental warmth and sensitivity versus harshness, hostility, and coercion, has also been associated with romantic relationship functioning (see River et al., 2022, for a review). Findings from most studies indicated that processes of modeling and socialization accounted for the relationship between parent–child and romantic interactions (River et al., 2022). Socialization and reinforcement of particular behaviors occur through parent–child communication (Peterson & Rollins, 1987) and behavioral patterns in close relationships are also learnt, such as communication and conflict resolution strategies (Story et al., 2004). Hence, expectations of parental criticism in the parent–child relationship may shape similar expectations of spousal criticism in the marital relationship.

Intergeneration transmission of parenting

The relationship with one's parents can influence how individuals parent their own children, implying that negative parenting in one generation can potentially result in poor parent–child relationships not only within that generation, but also across generations through intergeneration transmission of negative parenting. This process is defined as the psychological influence of one generation's parenting attitudes and behaviors by the earlier generation (Van Ijzendoorn, 1992). The hypothesis regarding the similarity between the parenting one experienced and one's own parenting (Serbin & Karp, 2003) is empirically supported and consistently observed in different social and economic contexts. Existing research has demonstrated the transmission of harsh parenting across generations (e.g., Conger et al., 2012;

Neppl et al., 2009; Schofield et al., 2013; Wang et al., 2014), which includes psychological aggression and corporal punishment. Despite being less aggressive and intrusive than corporal punishment, the use of psychological aggression is more common and perceived as acceptable and normative (Straus & Field, 2003; Wang & Liu, 2017). A limited number of studies have specifically looked at the intergenerational transmission of psychological aggression (see Niu et al., 2018, for a discussion). One mechanism has been suggested to be through the intensification of general aggressiveness or antisocial behavior in the second generation, resulting in similar harsh parenting (Neppl et al., 2009). Hostile parent–child interactions have also been argued to encourage cycles of coercive interactions, resulting in the adoption of similar interaction styles by children with others, including their own children (Patterson et al., 1992). A study by Ingram et al. (2019) also reported results showing associations between parental bonding dimensions with hostility and aggression, with findings suggesting that low parental care and high parental overprotection may precipitate angry and aggressive responding later in life. In the context of criticism, to our knowledge, previous studies have not yet examined the intergeneration transmission of parental criticism of children. Hence, this study aims to fill this gap in literature by investigating the intergeneration transmission of parental criticism in terms of how critical parents are perceived to be by their children.

Research has also pointed toward factors moderating the strength of the intergeneration transmission of harsh parenting. First, partner warmth and positive spousal communication have been found to be associated with less harsh parenting, and when such partner behaviors were high, intergenerational continuity from Generation 1 (G1) to Generation 2 (G2) parenting was not observed (Conger et al., 2013). Second, child-rearing styles of spouses/coparents also moderate the intergeneration transmission of parenting. Parents tend to emulate one another's behavior toward children (Schofield et al., 2009) – there is a higher likelihood of a partner being the same as a warm and supportive partner toward children, causing experiences of harsh parenting to have a reduced impact. Third, there is evidence indicating child maltreatment in one generation is positively correlated with that in the following generation, where safe, stable, nurturing relationships in multiple within-family dyads were suggested to have a protective moderating effect (Schofield et al., 2013). Hence, it can be expected that levels of perceived spousal criticism and the spousal relationship may influence the employment of criticism in parenting and perceptions of criticism by their children as a result.

Interparental conflict, the marital relationship, and the parent–child relationship

Conflict behaviors in the relationship affect a couple's evaluation of their marriage and divorce (Karney & Bradbury, 1995), where destructive ones result in negative evaluations and poor marital satisfaction and stability (Birditt et al., 2010). Notably, criticism is one of four key predictors of divorce (Gottman, 1994). There is a significant negative association between PC ratings with marital satisfaction and quality (Chambless & Blake, 2009; Hooley & Teasdale, 1989; Smith & Peterson, 2008) and interspousal criticism was also negatively associated with marital adjustment (Lynch et al., 2001). Hence, these evidences suggest the effect of criticism on marital relationship quality.

In line with the family systems perspective, the spillover hypothesis postulates that experiences or feelings are brought from one domain to another across different relational systems within the family unit (Cox et al., 2001). Characteristic emotions and behaviors in the marital relationship will spread to the parent–child relationship, resulting in marital relationship quality affecting that of the parent–child relationship (Enger, 1988). Thus, the hypothesis suggests that conflict between parents can result in parent–child conflict (Krishnakumar & Buehler, 2000). In relation to criticism in the family unit, there may be spillover of patterns of criticism across

family relationships, such as those between parents to those between parents and children. Interparental conflict has been proposed to significantly affect parent–adolescent relationships (e.g., Belsky, 1984). Parenting behaviors and the parent–child relationship can be negatively impacted by destructive interparental conflict (Buehler & Gerard, 2002; Krishnakumar & Buehler, 2000). Specifically, poor parent–adolescent relationships were linked to conflict resolution characterized by hostility and anger (Mastrotheodoros et al., 2019). The “spillover” of destructive conflict to the parent–child relationship is proposed to occur through negative parenting behaviors and maladaptive parent–child interactions (Krishnakumar & Buehler, 2000; Martin et al., 2017). For example, destructive interparental conflict leads to a tendency of emotional distress and dysregulation in children (Cummings & Davies, 1996; Goeke-Morey et al., 2013). In the long term, negative emotions and parent–child conflict can result from recurrent interparental conflict. The mutual treatment of parents sets the overall tone for how children interpret conflict occurring in the family (Allen et al., 1996; Harold et al., 2004), which may result in dysfunctional systems of frequent conflict in relationships across generations. Hence, these findings highlight the importance of understanding the relationship between perceptions of spousal criticism with child's perceptions of parental criticism, along with their association with marital and parent–child relationship outcomes.

Significance and aim of present study

There is a strong empirical link between parental criticism and poor individual outcomes, such as various negative clinical outcomes (see Masland & Hooley, 2015, for review). Adverse parenting practices – such as parental negativity, rejection, and harsh parenting – have been related to externalizing problems, delinquency, and conduct disorders in children (e.g., Loeber et al., 2009; Trentacosta & Shaw, 2008). Parenting practices and the emotional responses of parents to children also influence their socioemotional development (Morris et al., 2007). Hence, studying perceptions of spousal criticism can contribute to a better understanding of their influence on parent's patterns of criticism with their children, and how it affects parent–child relationships and children's socioemotional development.

Marital quality and conflict have clear repercussions on multiple domains of health (including mental, physical, and family spheres), highlighting the importance of understanding the contribution of individual factors (see Fincham & Beach, 2010, for a review). The spillover between the marital relationship and the parent–child relationship has also been established to influence children's emotional and behavioral outcomes. It is clear that marital relationships have far-reaching and severe ramifications on the family unit as a whole, highlighting the importance of having a better understanding and insight into individual spouse characteristics on marital relationship outcomes.

Although previous work has examined criticism in marital and parent–child relationships, the degree to which an individual's perceptions of parental and spousal criticism is associated with perceptions of criticism by their own children has not been studied. To our knowledge, this is the first study to investigate the relationship between perceptions of spousal criticism (G2) with (i) G2 perceptions of parental criticism (G1) and (ii) G3 perceptions of G2 parental criticism, using the perceived criticism measure specifically, in a Singaporean context. Moreover, majority of studies on the perceived criticism measure have been conducted in Western White samples (see Masland & Hooley, 2015), where few studies have been conducted in Asian samples. In addition, parenting behaviors during parent–child interactions and interspouse communication have previously been studied using observer ratings, though perceptions or ratings by individuals may be more representative of the individual experience due to the relative symbolism of actions as rejection or critical (Rohner, 2021).

To the best of our knowledge, this study is the first to examine intergeneration continuity of perceptions of parental criticism in Singapore. A very limited number of studies has been conducted on parental criticism in the Singapore context, where a majority of the sparse literature on Asian parenting is based on studies conducted in East Asian countries such as China, Taiwan, Japan, and South Korea, or on Asian immigrants in the United States (see Chao & Tseng, 2002, for a review). In addition, a recent report examined reasons for intergeneration continuity in physical discipline in Singaporean parents, but not for psychological discipline, despite reporting higher frequencies of the use of psychological discipline by Singaporean parents (Singapore Children's Society, 2022). Singaporean parenting is characterized by Asian parenting values favoring strict discipline and control, with intergeneration transmission of parenting practices (Chao & Tseng, 2002) as well as a Western influence on family beliefs and ideals (Mathews et al., 2017). Cultural differences suggest there may be differential relationships between parental harshness and child outcomes given differing expressions, perceptions, and interpretations of similar behaviors across different cultural contexts (e.g., Ho et al., 2008). There is growing evidence suggesting that connotations and functional values of various parenting practices and styles may differ between Asian contexts and Western contexts, where most of the current studies on parenting have been conducted (see Pinquart & Kauser, 2018, for a review). Hence, findings from this study will provide insight into how G1 parental bonding and perceptions of criticism in subsequent generations (G2 and G3) are related, along with intergeneration continuity of parenting in Singapore.

Theoretical model

The theoretical model is based on the spillover hypothesis (Cox et al., 2001; Krishnakumar & Buehler, 2000) and supporting empirical evidence regarding interparental conflict and intergeneration transmission of parenting (Figure 1). First, based on findings indicating the effect of parental bonding on perceptions of criticism (Neoh et al., 2021) and the influence of parental warmth on threat perception (Rohner, 2021), parental warmth is expected to influence perceptions of parental and spousal criticism. In line with research on continuity of harsh parenting and psychological aggression and findings on the tendency to learn from one's parents' parenting (Scaramella & Conger, 2003), we hypothesize that:

Hypothesis 1. G2 perceptions of G1 parental bonding will predict (i) G2 perceptions of G1 parental criticism, (ii) G2 spousal criticism, and (iii) G3 perceptions of G2 parental criticism.

Hypothesis 2. G2 perceptions of G1 parental criticism will predict (i) G2 perceptions of spousal criticism and (ii) G3 perceptions of G2 parental criticism.

Second, in line with research on the correlation of perceptions of criticism of partners with relationship quality and safe, stable, and nurturing relationships as a moderator of the disruption of intergenerational continuity of harsh parenting (Conger et al., 2012; Schofield et al., 2013), we hypothesize that:

Hypothesis 3. Perceptions of spousal criticism in married dyads (G2) will predict (i) G2 marital relationship quality and (ii) children's (G3) perceptions of parental criticism.

Finally, in order to test whether the theoretical model and our hypotheses hold across gender, we performed a multiple group path analysis. An exploratory analysis was conducted on

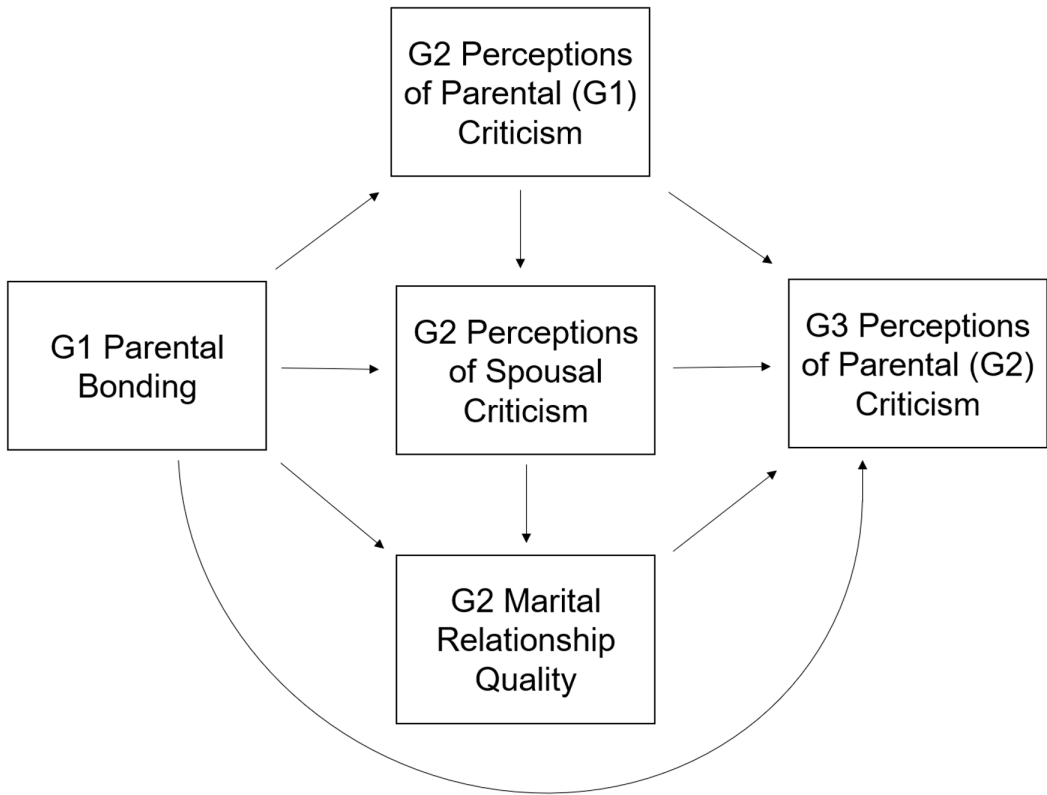


FIGURE 1 Theoretical model of G1 parental bonding on perceptions of parental criticism and spousal criticism in G2 and G3.

the effect of gender since few studies (e.g., Kitamura et al., 2009; Niu et al., 2018) have previously examined the intergeneration transmission of parental bonding measures.

METHOD

Participants and experimental procedure

In all, 134 Singaporean married parent couple dyads (G2) and their children (G3; aged 13 years and above) were recruited for the study. The study was approved by the Institutional Review Board at the Nanyang Technological University (IRB-2020-09-038) and informed consent was obtained from participants before completing the questionnaire. Child assent and parental consent were obtained for children aged below 21 years old.

Questionnaire measures

G2 participants completed the following measures: (a) *Perceived Criticism* (PC) measure (PC; Hooley & Teasdale, 1989) for their parents (G1) and spouses; (b) *Parental Bonding Instrument* (PBI; Parker, Tupling & Brown, 1979); and (c) the *Quality of Marriage Index* (QMI; Norton, 1983). G3 participants completed the PC measure for their parents (G2). All measures showed good internal consistency in this study and the Cronbach's alphas for all questionnaires are summarized in [Table S1](#) (Supplementary Material).

Perceived criticism measure

The PC measure consists of the question “How critical is (the relative) of you?” (Hooley & Teasdale, 1989). It is rated on 10-point scale ranging from 1 (*not at all*) to 10 (*very*). PC ratings have high predictive validity and test–retest reliability, and correlate with expressed emotion as well (Hooley & Teasdale, 1989; Hooley & Richters, 1991).

Parental bonding instrument

Parental bonding was measured using the PBI (Parker et al., 1979). The PBI consists of a 25-item form completed for the mother and father, with two subscales: *care* and *overprotection*. *Care* items (e.g., “Spoke to me in a warm and friendly voice”) look at the extent that affection and sensitive parenting were perceived, while *overprotection* items (e.g., “Gave me as much freedom as I wanted”; reverse coded) look at the extent that (i) excessive control and/or (ii) impediment to growth toward independence by parents were perceived. The PBI was observed to show high test–retest reliability after 20 years where changes in mood did not significantly affect ratings (Murphy et al., 2010).

Quality of marriage index

Marital relationship quality for G2 spouses was measured using the QMI (Norton, 1983). The QMI consists of five items (e.g., “My relationship with my partner is strong”) on a 7-point Likert scale (1 = *strongly disagree*, 7 = *strongly agree*) and one item on a 10-point Likert scale. Higher total scores on the items represent higher relationship quality. QMI ratings show high internal consistency across multiple studies (e.g., Karney et al., 1994).

Analytic plan

Correlational analysis was conducted on the study variables. Multiple group path analysis using maximum likelihood estimation was conducted using the *lavaan* package (Rosseel, 2012) on the statistical open-source software R (Version 4.0.2; R Core Team, 2020) and to test whether parameters were significantly different for G2 mothers and G2 fathers. The chi-square statistic and two goodness-of-fit indices – the root mean squared error of approximation (RMSEA) and the comparative fit index (CFI) – were calculated. A RMSEA value equal or lower than 0.08 indicates an acceptable fit (Byrne, 1998) and a value lower than 0.06 indicates a good fit (Hu & Bentler, 1999). A CFI value greater than 0.90, preferably greater than 0.95, indicates an acceptable fit of the model (Hu & Bentler, 1999). In order to test each indirect path, the 95% bias-corrected confidence interval computed from 1000 bootstrap resamplings was considered to ascertain significance. The dataset generated during this study is available in the open access institutional data repository (DR-NTU) at the following link: <https://doi.org/10.21979/N9/EZIJSV>.

RESULTS

Descriptive statistics and correlations among model variables

G2 participants had a mean age of 52.13 years ($SD=5.92$). G3 participants (male=42, female=91) had a mean age of 19.84 years ($SD=2.57$). Tables S2 and S3 (Supplementary

Material) summarize the descriptive statistics for (i) the PC ratings of G1 parents and G2 spouses by G2 participants and (ii) G2 participants by G3 participants. [Tables S4](#) and [S5](#) summarize the correlations of the variables included in the path analysis model.

Model fit and testing

The full multiple group path analysis models are shown in [Figures S1–S4](#) (Supplementary Material) and only significant results are discussed in the following section.

PBI care

The multiple group path model for PBI care (mother) had a fit of $\chi^2=1.67$, $df=2$, $p=0.433$ ([Figure S2](#)). The CFI of the model is 1.00 and the RMSEA is 0, indicating a good fit of the model to the data. With regard to Hypothesis 1, G2 perceptions of G1 maternal care was a significant predictor of G2 perceptions of G1 maternal criticism ($\beta=-0.387$, $SE=0.071$, $p<0.001$) only for female G2 participants. G2 perceptions of G1 maternal care was a significant predictor of G2 perceptions of spousal criticism for both male ($\beta=-0.154$, $SE=0.063$, $p=0.015$) and female participants ($\beta=0.163$, $SE=0.076$, $p=0.031$). The indirect effect of G2 perceptions of G1 maternal care criticism on G3 perceptions of G2 parental criticism, mediated by G2 perceptions of maternal criticism, was significant for female participants (-0.238 , 95% CI $[-0.348, -0.129]$). With regard to Hypothesis 2, G2 perceptions of G1 maternal criticism significantly predicted G2 perceptions of spousal criticism for both male ($\beta=0.641$, $SE=0.05$, $p<0.001$) and female G2 participants ($\beta=0.617$, $SE=0.063$, $p<0.001$). G2 perceptions of G1 maternal criticism was also a significant predictor of G3 perceptions of G2 parental criticism for both male ($\beta=0.217$, $SE=0.108$, $p=0.044$) and female G2 participants ($\beta=0.427$, $SE=0.099$, $p<0.001$). With regard to Hypothesis 3, G2 perceptions of spousal criticism was a significant predictor of G2 marital relationship quality for both male ($\beta=-0.239$, $SE=0.081$, $p=0.003$) and female G2 participants ($\beta=-0.258$, $SE=0.081$, $p=0.001$).

The multiple group path model for PBI care (father) had a fit of $\chi^2=2.83$, $df=2$, $p=0.243$ ([Figure S3](#)). The CFI of the model is 0.995 and the RMSEA is 0.056, indicating a good fit of the model to the data. With regard to Hypothesis 1, G2 perceptions of G1 paternal care was a significant predictor of G2 perceptions of G1 paternal criticism ($\beta=-0.245$, $SE=0.080$, $p=0.002$) only in female G2 participants. G2 perceptions of G1 paternal care was a significant predictor of G2 perceptions of spousal criticism for only male G2 participants ($\beta=-0.205$, $SE=0.065$, $p=0.002$), whereas the indirect effect mediated by G2 perceptions of G1 paternal criticism was significant for female participants (-0.144 , 95% CI $[-0.257, -0.030]$). With regard to Hypothesis 2, G2 perceptions of G1 paternal criticism significantly predicted G2 perceptions of spousal criticism for both male ($\beta=0.601$, $SE=0.054$, $p<0.001$) and female G2 participants ($\beta=0.586$, $SE=0.060$, $p<0.001$). With regard to Hypothesis 3, G2 perceptions of spousal criticism was a significant predictor of G2 marital relationship quality for both male ($\beta=-0.264$, $SE=0.081$, $p=0.001$) and female G2 participants ($\beta=-0.234$, $SE=0.08$, $p=0.003$). G2 perceptions of spousal criticism was a significant predictor of G3 perceptions of G2 parental criticism only for female participants ($\beta=0.226$, $SE=0.103$, $p=0.029$).

PBI overprotection

The multiple group path model for PBI overprotection (mother) had a fit of $\chi^2=2.14$, $df=2$, $p=0.342$. The CFI of the model is 0.999 and the RMSEA is 0.023, indicating a good fit of the

model to the data (Figure S4). With regard to Hypothesis 1, G2 perceptions of G1 maternal overprotection was a significant predictor of G2 perceptions of G1 maternal criticism for both male ($\beta=0.274$, $SE=0.078$, $p<0.001$) and female G2 participants ($\beta=0.339$, $SE=0.074$, $p<0.001$). The indirect effect of G2 perceptions of G1 maternal overprotection on G2 perceptions of spousal criticism mediated by G2 perceptions of paternal criticism was significant for both male (0.178, 95% CI [0.062, 0.293]) and female participants (0.197, 95% CI [0.106, 0.288]). G2 perceptions of G1 maternal overprotection was a significant predictor of G3 perceptions of G2 parental criticism only for female participants ($\beta=-0.207$, $SE=0.081$, $p=0.01$). With regard to Hypothesis 2, G2 perceptions of G1 maternal criticism significantly predicted G2 perceptions of spousal criticism for both male ($\beta=0.649$, $SE=0.053$, $p<0.001$) and female G2 participants ($\beta=0.582$, $SE=0.064$, $p<0.001$). G2 perceptions of G1 maternal criticism was also a significant predictor of G3 perceptions of G2 parental criticism for both male ($\beta=0.227$, $SE=0.109$, $p=0.038$) and female G2 participants ($\beta=0.434$, $SE=0.094$, $p<0.001$). With regard to Hypothesis 3, G2 perceptions of spousal criticism was a significant predictor of G2 marital relationship quality for both male ($\beta=-0.260$, $SE=0.081$, $p=0.001$) and female G2 participants ($\beta=-0.253$, $SE=0.081$, $p=0.002$).

The multiple group path model for PBI overprotection (father) had a fit of $\chi^2=1.772$, $df=2$, $p=0.412$ (Figure S5). The CFI of the model is 1.00 and the RMSEA is 0, indicating a good fit of the model to the data. With regard to Hypothesis 1, G2 perceptions of G1 paternal overprotection was a significant predictor of G2 perceptions of G1 paternal criticism only for female G2 participants ($\beta=0.298$, $SE=0.077$, $p<0.001$), though it was close to significance for male G2 participants ($\beta=0.163$, $SE=0.084$, $p=0.051$). The indirect effect of G2 perceptions of G1 paternal overprotection on G2 perceptions of spousal criticism mediated by G2 perceptions of paternal criticism was significant in female participants (0.169, 95% CI [0.066, 0.273]). G2 perceptions of G1 paternal overprotection was a significant predictor of G3 perceptions of G2 parental criticism only for female participants ($\beta=-0.185$, $SE=0.085$, $p=0.03$). With regard to Hypothesis 2, G2 perceptions of G1 paternal criticism was a significant predictor of G2 perceptions of spousal criticism for both male ($\beta=0.609$, $SE=0.056$, $p<0.001$) and female G2 participants ($\beta=0.569$, $SE=0.062$, $p<0.001$). With regard to Hypothesis 3, G2 perceptions of spousal criticism was a significant predictor of G2 marital relationship quality for both male ($\beta=-0.281$, $SE=0.079$, $p<0.001$) and female G2 participants ($\beta=-0.229$, $SE=0.082$, $p=0.005$). G2 perceptions of spousal criticism was a significant predictor of G3 perceptions of G2 parental criticism only for female participants ($\beta=0.229$, $SE=0.101$, $p=0.024$).

DISCUSSION

The results provide evidence for the intergeneration continuity in perceptions of criticism across generations in Singaporean participants and gender differences in the relationships between G1 parental bonding and perceptions of G1 criticism with the other study variables.

G2 perceptions of G1 parental bonding on G2 perceptions of G1 criticism

The results indicate that G2 perceptions of G1 parental bonding significantly influenced G2 perceptions of G1 criticism, providing partial support for Hypothesis 1. Specifically, higher levels of perceived parental care were associated with lower levels of perceived parental criticism, while higher levels of perceived parental overprotection were associated with higher levels of perceived parental criticism. These findings are consistent with previous results demonstrating the effect of parental care and overprotection on perceptions of criticism as destructive (Neoh et al., 2021). These findings also align with the notion that parental bonding

and the nature of parent–child interactions influence cognitive schemas about the self and the world, where parental care may influence cognitive processing and attentional biases toward negative information such as criticism, contributing to levels of perceived parental criticism. Notably, G2 perceptions of G1 parental care only significantly predicted G2 perceptions of parental criticism in female participants. A possible explanation could be gender differences in the parent–child relationship and parenting of sons and daughters. Higher levels of parental care of daughters were observed in Sun et al. (2010), whereas higher levels of overprotection and control of sons were observed in several studies (e.g., Shek, 2008; Sun et al., 2010). Higher maternal discipline was also perceived by boys compared to girls (Shek, 2008). Moreover, daughters tend to be parented with greater warmth and greater reluctance to punish, while higher levels of perceived criticism and rejection were observed in boys (Ortega et al., 2023). G2 male participants may be more accustomed to criticism due to experiences of less warm parental communication and greater psychological control, whereas G2 female participants may be more likely to experience greater parental care and warmth. Singaporean parenting practices support this idea, where perceptions of parental warmth occurred together with psychological control in children (Stright & Yeo, 2014) along with favorable interpretations of strict and controlling behaviors typical of authoritarian parenting (Stewart et al., 2002). Similarly, a number of studies indicated a higher likelihood of authoritarian parenting being used by parents for boys, whereas authoritative parenting tended to be employed for girls (e.g., Conrade & Ho, 2001; Lytton & Romney, 1991; Tam et al., 2012). The correlations in the sample also aligns with this notion; whereas a significant correlation between parental care and perceptions of criticism was observed in G2 female participants, only maternal overprotection and perceptions of maternal criticism were significantly correlated in G2 male participants (Tables S4 and S5 in Supplementary Material). Hence, how warm a parent is perceived to be may not be related to perceptions of parental criticism by sons in Singapore, though more research is needed to support this interpretation.

G2 perceptions of G1 parental bonding and G1 criticism

G3 perceptions of G2 criticism

G2 perceptions of G1 parental overprotection were found to significantly predict G3 perceptions of G2 parental criticism, providing partial support for Hypothesis 1. Higher levels of G2 perceived G1 parental overprotection were associated with lower levels of G3 perceptions of G2 maternal criticism. A possible interpretation of this finding relates to the relationship between parental overprotection and emotion regulation in Asian contexts where a number of studies has indicated the association between maternal control with positive outcomes in Asian contexts. It is possible that G2 female parents with higher perceptions of parental overprotection and control may have better emotion management when encountering parent–child conflict or behavior correction, being more likely to employ supportive emotion socialization behaviors rather than being excessively harsh or critical toward G3 children's negative emotion expression. Although most studies conducted in Western populations observed an association between overprotection and authoritarian parenting with negative outcomes, authoritarian parenting may be viewed “positively” with regard to emotional meaning and intention associated with parental controlling behavior (Cheung & Lim, 2022). For example, results reported in Ong et al. (2018) indicated that maternal overprotection did not have a significant interaction with children's socioemotional status in childhood with mental health outcomes in a Singaporean sample. In general, more parental control is observed in Asian parenting, where a higher percentage of Singaporean parents in the study by Ong et al. (2018) were reported to display low care and high overprotection compared to a European

sample (Avagianou & Zafiropoulou, 2008). Since respect for parental authority is emphasized in the Singaporean context (Cheung & Sim, 2017), there may be a greater understanding of intentions underlying parental criticism among children, suggesting that positive outcomes may result from the perception and conveying of well-meaning intentions behind criticism (Cheung & Lim, 2022). Several empirical findings have demonstrated the link between parental emotion regulation with parenting behaviors. Fathers' emotion dysregulation mediated the association between grandparents' parental bonding and fathers' use of nonsupportive emotion socialization behaviors (Yan et al., 2016). Parental emotion regulation has been identified as a parental characteristic linked to parental emotion socialization behaviors (Morris et al., 2007). An empirical association between parental emotion dysregulation and nonsupportive parenting behaviors has been observed (Buckholdt et al., 2014). Mothers experiencing difficulties in regulating emotions were also found to be more critical of their children's negative emotions (Morelen et al., 2014), supporting the earlier explanation. This explanation also aligns with findings indicating that G2 parental characteristics exert influence on the effect of G1 parenting on that in G2 (Belsky, 1984). Future research examining the association between parental overprotection and emotion regulation in Singaporean parents can contribute evidence supporting this interpretation. In a similar vein, there are findings indicating the relationship between authoritarian parenting on emotion management in the Singaporean context. Better emotion management was observed in Singaporean adolescents who experienced authoritarian parenting (Chong & Chan, 2015), while authoritarian parenting and socioemotional adjustment were positively associated in a study conducted in China (Li et al., 2010).

G2 perceptions of maternal criticism significantly predicted G3 perceptions of G2 parental criticism, partially supporting Hypothesis 2. Higher levels of G2 perceptions of G1 maternal criticism were associated with higher levels of G3 perceptions of G2 parental criticism for both male and female G2 participants. This finding on the intergeneration continuity of perceptions of maternal criticism is consistent with previous work indicating the intergeneration transmission of parenting in Singapore. One of the reasons Singaporean parents gave for employing physical discipline was the normalization of its use since their own parents had also used it (Singapore Children's Society, 2022). Although the frequency of psychological discipline was reported, parents' reasons for its use were not reported in the study. It is possible that G2 parents may have learnt parental criticism from their own parents, leading to its use as an automatic response to misbehavior by children due to its normalization (Scaramella & Conger, 2003). Hence, our findings serve as initial evidence for the intergeneration continuity in perceptions of parental criticism in Singapore. In addition, higher frequencies of psychological discipline were reported by Singaporean mothers than fathers (Singapore Children's Society, 2022), possibly accounting for the significance of G2 perceptions of maternal criticism, but not paternal criticism in predicting G3 perceptions of parental criticism. Hence, the results indicate the role of maternal parenting in the intergeneration continuity of perceptions of parental criticism.

G2 perceptions of spousal criticism

There was a significant direct effect of G2 perceptions of G1 parental bonding on G2 perceptions of spousal criticism and a significant indirect effect mediated by G2 perceptions of G1 criticism. Higher levels of perceived parental criticism were associated with higher levels of perceived spousal criticism for both male and female participants, which is consistent with the well-established association between parent-child relationships and romantic relationship quality (Conger et al., 2009) and the role of parental warmth and harsh parenting in the development of positive expectations for social interactions (Bretherton & Munholland, 1999).

Hence, it is possible that parental bonding and perceptions of parental criticism can spillover into an individual's perceptions of spousal criticism, suggesting that the more critical parents are perceived to be, the more critical spouses are perceived as well.

G2 perceptions of spousal criticism

G2 marital quality

G2 perceptions of spousal criticism significantly predicted marital quality, supporting Hypothesis 3. Perceived spousal criticism was negatively associated with marital quality for both G2 male and female participants. Hence, these results are consistent with previous work demonstrating the association between levels of perceived spousal criticism and the marital relationship (e.g., Lynch et al., 2001; Smith & Peterson, 2008), while contributing novel evidence from the Singaporean context.

G3 perceptions of G2 criticism

G2 perceptions of spousal criticism was a significant predictor of G3 perceptions of G2 criticism only for G2 female participants in the models for G1 paternal parental bonding, suggesting that maternal parenting may account for most of the intergeneration continuity in perceptions of parental criticism. In comparison with fathers, mothers are more involved in socialization and have closer relationships with their children (e.g., Shek, 2008). Moreover, mothers tend to be the main caregivers in Singaporean families (Cheung & Hawkins, 2014). Emotional restraint tends to be preferred in Singapore (Hurley et al., 2016) and emotion suppression is more commonly employed in cultures emphasizing social order and hierarchy (Matsumoto et al., 2008), which could be a possible explanation for this result. In the context of such interdependent societies (Chen & Chung, 1994), behaviors and emotion displays are intended to promote relationship maintenance and minimize conflict. Hence, spillover of emotions and behaviors to the parent–child relationship may be minimized through the inhibition of negative emotion expression associated with perceptions of spousal criticism in Singaporean parents. Another possible interpretation is that parenting mediates the effect of perceptions of spousal criticism on the parent–child relationship. For example, mindful parenting practices were predicted by interparental conflict, suggesting that less mindful and attentive parenting may be a possible pathway for the spillover of interparental conflict to the parent–child relationship (Cheung & Chung, 2022). Hence, perceptions of spousal criticism may influence perceptions of parental criticism in children due to degradation of parenting as a result of spousal conflict, which is a possible direction for future research.

Implications

Findings in this study suggest the intergeneration transmission of parental bonding on perceptions of criticism in the parent–child relationship in the subsequent generation in Singaporean families. Compared with physical discipline, both parents reported higher frequencies of psychological discipline (e.g., “calling [a child] dumb/lazy”) in Singapore (Singapore Children's Society, 2022). Hence, this study contributes to growing evidence of the association between paternal parenting and child outcomes, which is often less studied, and the relationship between parental bonding and perceptions of parental criticism. The results also provide initial evidence of the continuity in perceptions of parental criticism in

the parent–child relationship across generations. Given the association between PC ratings and poor clinical outcomes (see Masland & Hooley, 2015, for a review), these findings suggest parental criticism may serve as a possible pathway contributing to the intergeneration transmission of psychopathology. The role of parental criticism and characteristics of parent–child communication as possible proximal risk factors in the intergeneration transmission of harsh parenting can be further investigated in research conducted on parenting across generations in future. Parental (G2) PC ratings from patients (G3), as well as parental (G1) PC ratings from the patient's parents (G2), may serve as an additional source of information into proximal risk factors of patient outcomes for clinicians treating mental health disorders related to PC, though more empirical research in clinical samples is needed to provide support for this recommendation.

The results also expand on previous findings where spousal communication was rated by observers, suggesting that perceptions of spousal behavior can also contribute to the degradation of the marital relationship while spilling over into the parent–child relationship. Consequently, marital therapy and parenting advice can consider the inclusion of recommendations targeting conflict patterns, specifically for criticism, where clinicians can consider making use of perceived criticism ratings for spouses as well as perceived criticism by the couple's children in addressing detrimental conflict behaviors contributing to relationship degradation. Additionally, parenting education can address the implications of the marital relationship and interparental conflict on the parent–child relationship, parenting practices, and consequences on child adjustment and development.

Cultural differences in parenting

The findings in this study are consistent with growing evidence suggesting cultural differences between Western and Asian contexts in the connotations and effects of parental control on child outcomes (Cheung & Lim, 2022), aligning with previous work highlighting the importance of sociocultural context on the study and interpretation of parenting and its influence on child outcomes. The importance of the cultural meaning and perceptions of parenting behaviors from both the perspective of the parent and child is highlighted in this study, where the findings point toward the importance of studying and interpreting parenting behaviors and their relationships with child outcomes in the sociocultural context in which they derive from. Given that cultural meanings of parenting behaviors differ across cultures and there is varying effectiveness of parenting styles and practices across cultures (Coll et al., 1996; Deater-Deckard et al., 1996), future studies can investigate perceptions of spousal criticism and parental criticism in parents from other countries. Future research can also extend these results through the investigation of pathways mediating intergeneration continuity in the employment of psychological discipline including parental criticism in Singapore, as well as in samples from other countries.

Limitations

First, the parent–child relationship and perceptions of parental criticism in married couples were the main focus in this study, but future studies can examine other within-family dyads and family structures and possible moderation of family communication patterns on different familial relationship quality. Evidence from prospective, longitudinal studies can further support current findings. Second, child effects on parenting, including criticism, may also be present. For example, a bidirectional association between child internalizing symptoms and hostile maternal parenting was found (Hentges et al., 2021). Hence, child

factors such as personality traits or behavioral patterns can also be explored in future studies. Third, intergeneration continuity of particular parenting practices may be moderated by other parent factors. For example, parenting stress was found to moderate the strength of intergeneration transmission of harsh parenting (Niu et al., 2018). Hence, future studies can explore which and how parent factors moderate continuity in perceptions of parent and spousal criticism across generations. Finally, only the single-item PC measure was used in this study to measure perceptions of criticism. Although the single-item PC measure has been previously used in a significant number of studies (e.g., Dedoncker et al., 2019; Hooley et al., 2012; Masland et al., 2015; Neoh et al., 2022; Premkumar et al., 2013) and a review by Renshaw (2008) indicated medium-to-large effect sizes of PC ratings on clinical outcomes obtained using this format, future studies can expand on the current findings by including other measures of individual perceptions of criticism, such as the *Sensitivity to Criticism Scale* (Atlas, 1994), and/or parent self-reports assessing how critical they are toward their children.

CONCLUSIONS

Sociocultural contexts are ever-changing, implying that the nature of parenting and parent-child relationships are constantly changing as well. Consequently, how parenting practices and parental criticism are interpreted in terms of emotional meanings and intentions, are subjected to prevailing sociocultural norms. The findings in this study point toward the role of parental bonding on perceptions of parental criticism across generations as well as the relationship between perceptions of parental criticism and spousal criticism in the family unit. The complexity of the intergeneration transmission of parenting and perceptions of criticism highlight the importance of continued research into identifying factors to break the cycle of detrimental parenting practices, especially considering its potential as a pathway to intergeneration transmission of psychopathology.

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Additional supporting information can be found online in the Supporting Information section at the end of this article.

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