



# Adverse parenting and perfectionism: A test of the mediating effects of attachment anxiety, attachment avoidance, and perceived defectiveness<sup>☆</sup>

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## ABSTRACT

The developmental model of perfectionism in the Perfectionism Social Disconnection Model (PSDM) posits that perfectionism may arise from insecure attachment (i.e., attachment anxiety and avoidance) and perceived defectiveness rooted in asynchronous or adverse parent-child relationships. To provide a test of the developmental portion of the PSDM, we examined the mediating effects of attachment anxiety and avoidance as well as perceived defectiveness on the associations between adverse parenting and trait and self-presentational components of perfectionism among 344 undergraduate students (79.9% female, *M*<sub>age</sub> = 20.29). Congruent with the PSDM, we found significant positive correlations between adverse parenting, attachment anxiety and avoidance, perceived defectiveness, and various components of perfectionism. Adverse parenting had an indirect effect on trait and self-presentational perfectionism via attachment insecurities and perceived defectiveness. Results also suggest that adverse parenting may be associated with different constellations of attachment insecurities and perceived defectiveness that underlie different components of perfectionism. Together, this study provides additional support for the developmental model of perfectionism outlined in the PSDM by linking perfectionism with adverse parenting, attachment insecurities, and perceived defectiveness.

## 1. Introduction

### 1.1. Overview of perfectionism

Perfectionism has been established as a multidimensional personality construct with various pernicious effects on mental and physical functioning across the lifespan (for reviews, see Egan, Wade, & Shafran, 2011; Hewitt, Flett, & Mikail, 2017; Sirois & Molnar, 2016). According to Hewitt et al. (2017), the unyielding and rigorous demand that one must be or appear to be perfect involves trait dimensions (Hewitt & Flett, 1991), self-presentational facets (Hewitt et al., 2003), and cognitive self-relational components of perfectionism (Flett, Hewitt, Blankstein, & Gray, 1998). Trait dimensions of perfectionism reflect dispositional elements that involve the need for the self or others to be perfect, which include *self-oriented perfectionism* (SOP; requirement of the self to be perfect), *other-oriented perfectionism* (OOP; requirement for others to be perfect), and *socially prescribed perfectionism* (SPP;

perception that others require perfection for the self). The self-presentational facets of perfectionism, termed perfectionistic self-presentation (PSP; Hewitt et al., 2003), represent other-relational elements that encompass the need to present oneself to others as perfect or flawless. This includes *perfectionistic self-promotion* (overt communication and display of one's achievements and perfections), *nondisplay of imperfection* (concealment of any behavioral displays of perceived flaws), and *nondisclosure of imperfection* (avoidance of verbal disclosures of any perceived weaknesses). Finally, the cognitive or self-relational factor of perfectionism includes intrapersonal statements such as self-recriminations and automatic perfectionistic thoughts (Flett et al., 1998).

### 1.2. The perfectionism social disconnection model

The Perfectionism Social Disconnection Model (PSDM; Hewitt et al., 2017) incorporates early theories of perfectionism, Bowlby's (1969)

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attachment theory, Kohut's (1971) model of the self, and theories describing negative affective states. Early theorists, such as Horney (1939), Missildine (1963), and Hamachek (1978), described perfectionism as stemming from controlling and demanding parents, and parents whose love and acceptance depends upon the child's behavior or performance. Moreover, there are several theoretical models emphasizing the role of parenting behaviors and family environment on the development of perfectionism (Flett, Hewitt, Oliver, & MacDonald, 2002; Soenens et al., 2005), which have gained some empirical support (e.g., Mitchell, Broeren, Newall, & Hudson, 2013; Speirs Neumeister, Williams, & Cross, 2009). Ainsworth, Blehar, Waters, and Wall (1978) suggested that caregivers who are perceived as uninvolved, controlling, or inconsistent are likely to foster attachment insecurities in their children. In addition, Kohut (1971) proposed that early negative relational experiences can result in the development of a defective or shameful self where the individual acquires a fixation on personal defects and shortcomings, a hypersensitivity to failures and negative evaluations, and a preoccupation with negative self-related thoughts and feelings, all of which are characteristics of perfectionism.

According to the PSDM (Hewitt et al., 2017), perfectionism develops as a result of a lack of fit or asynchronous parent-child relationship where the child's needs for security, nurturance, and support have been either inadequately or inconsistently met or completely neglected. This asynchrony may reflect adverse parenting behaviors but may also be driven by children's perception of parents' lack of warmth, involvement, and support, or excessive involvement and control. In this manner, asynchrony entails a mismatch between a child's needs and what the caregivers provide. A lack of synchrony paves the way for attachment insecurities and a persistent view of the self as fundamentally defective and unworthy of love and support. As such, the PSDM proposes that the child engages in perfectionistic behaviors (i.e., needing to be or appear perfect) to secure acceptance and to repair a sense of defectiveness or 'inner badness', as being perfect and/or appearing to be perfect is believed to gain approval and acceptance from people around them. From this perspective, early attachment insecurities and feelings of defectiveness/shame and the negative self-models they represent are at the core of perfectionism and perfectionistic behaviors. Therefore, adverse parenting is hypothesized to have an impact on development of perfectionism by engendering attachment insecurities (i.e., anxiety and/or avoidance) and a sense of defectiveness.

### 1.3. Adverse parenting, insecure attachment, perceived defectiveness, and perfectionism

There is accumulating evidence in support of various components of the PSDM regarding the development of perfectionism (e.g., Boone, 2013; Chen et al., 2012; Chen, Hewitt, & Flett, 2015; Reis & Grenyer, 2002). One body of research has demonstrated the effects of adverse parenting on perfectionism. For example, perfectionism has been associated with parental behaviors characterized by excessive harshness (Frost, Lahart, & Rosenblate, 1991), heightened psychological control (Soenens et al., 2005), and authoritarianism (Hibbard & Walton, 2014). Furthermore, hypercritical, pressuring, and demanding parenting has been shown to erode daughters' social self-esteem, generating a sense of social rejection and unlikability from others (Smith et al., 2017). In addition to adverse parenting, another area of research has demonstrated significant associations between attachment insecurities, shame, and various components of perfectionism (e.g., SPP, PSP, concern over mistakes, and doubts about actions). Chen et al. (2015) conducted one of the first investigations of the developmental portion of the PSDM using a university sample. These authors found significant associations between several interpersonal components of perfectionism (i.e., SPP and PSP facets) and insecure attachment, need for belongingness, and dispositional shame. Moreover, Chen et al. (2015) reported that the links between anxious-preoccupied attachment and interpersonal components of perfectionism were mediated by an excessive need for

belongingness and feelings of shame. Together, these findings provide further empirical support for the importance of adverse parenting and early attachment insecurities in the development of perfectionism.

### 1.4. Goals and hypotheses

Although prior research (e.g., Chen et al., 2015) has offered support for various components in the developmental model of perfectionism as outlined in the PSDM (Hewitt et al., 2017), no study thus far has investigated the PSDM by simultaneously testing parenting behaviors, attachment insecurities, perceived defectiveness, and trait and self-presentational perfectionism. To replicate past findings and to determine new associations, we are interested in the correlations among these variables. Specifically, we hypothesized that adverse parenting, characterized by a lack of parental warmth, involvement, and support that frustrates basic psychological needs, is linked to greater attachment insecurities (i.e., anxiety and/or avoidance) and perceived defectiveness, which in turn, is associated with higher levels of trait and self-presentational perfectionism.

## 2. Method

### 2.1. Participants and procedure

Participants ( $n = 344$ ) were undergraduate students recruited through the university human subject pool. Participants' ages ranged between 17 and 40 years (79.9% female,  $M_{age} = 20.29$ ,  $SD = 3.00$ ). The racial/ethnic composition of participants was 45.6% East Asians, 25.3% Caucasian, 20.6% Middle-Easterners and South Asians, and 8.4% mixed or other races. Approximately 61.2% of the participants were born and raised in North America. Informed consent was obtained, and participants received course credits for their participation. This study was approved by the university behavioral research ethics board.

### 2.2. Measures

*Multidimensional Perfectionism Scale* (MPS; Hewitt & Flett, 1991) is a 45-item measure of trait perfectionism. Items are rated on a 7-point Likert scale from 1 (*strongly disagree*) to 7 (*strongly agree*). The MPS includes three subscales including self-oriented perfectionism (e.g., "I set very high standards for myself"), other-oriented perfectionism (e.g., "I cannot stand to see people close to me make mistakes"), and socially prescribed perfectionism (e.g., "People expect nothing less than perfection from me"). The MPS has shown reliability and validity in clinical and non-clinical samples (e.g., Hewitt & Flett, 1991).

*Perfectionistic Self-Presentation Scale* (PSPS; Hewitt et al., 2003) is a 27-item measure of interpersonal expressions of perfectionism. Items are rated on a 7-point Likert scale from 1 (*strongly disagree*) to 7 (*strongly agree*). The PSPS has three subscales including perfectionistic self-promotion (e.g., "I strive to look perfect to others"), nondisplay of imperfection (e.g., "I do not want people to see me do something unless I am very good at it"), and nondisclosure of imperfection (e.g., "Admitting failure to others is the worst possible thing"). Studies have demonstrated good validity and reliability for the PSPS in clinical and non-clinical samples (e.g., Hewitt et al., 2003).

*Attachment Style Questionnaire* (ASQ; Feeney, Noller, & Hanrahan, 1994) is a 40-item measure of attachment dimensions in adults: attachment anxiety (e.g., "I worry that others won't care about me as much as I care about them"), and attachment avoidance (e.g., "I worry about people getting too close"). Items on the ASQ are rated on a 6-point Likert scale from 1 (*totally disagree*) to 6 (*totally agree*). The ASQ has shown good psychometric properties in both clinical and non-clinical populations (Feeney et al., 1994; Fossati et al., 2003).

*Perceptions of Parents Scales - College Students* (POPS; Robbins, 1994) is a 42-item self-report measure concerning the degree to which parents provide what social determination theory (SDT; Grolnick, Deci, & Ryan,

1997) considers an optimal parenting context (i.e., autonomy support, involvement, and warmth) by addressing core needs. Each item is rated on a 7-point Likert scale from 1 (*not at all true*) to 7 (*very true*) for mothers and fathers separately. The POPS is comprised of three subscales: autonomy support (e.g., “My mother/father allows me to decide things for myself”; “My mother/father isn’t very sensitive to many of my needs”; reversed), involvement (e.g., “My mother/father finds time to talk with me”; “My mother/father doesn’t seem to think of me often”; reversed), and warmth (e.g., “My mother/father makes me feel very special”; “My mother/father is often disapproving and unaccepting of me”; reversed). We combined scale ratings from both parents (see Soenens et al., 2007) and created a composite score to represent adverse parenting, defined by a lack of autonomy support, warmth, and involvement. We scored the measure so that higher scores reflect greater adversity.

*Young Schema Questionnaire-Long Form Version 3* (YSQ-L3; Young, 2003) is a measure of early maladaptive schemas. The 15-item defectiveness/shame schema scale was used as a measure of perceived defectiveness. Participants rated each statement on a 6-point Likert scale from 1 (*completely untrue of me*) to 6 (*describes me perfectly*). Example items include: “I’m unworthy of the love, attention, and respect of others”. Studies have provided support for the convergent and discriminant validity, as well as internal consistency and test-retest reliability of the YSQ in both clinical and non-clinical samples (e.g., Hawke & Provencher, 2012).

### 3. Results

#### 3.1. Descriptive statistics and bivariate correlations

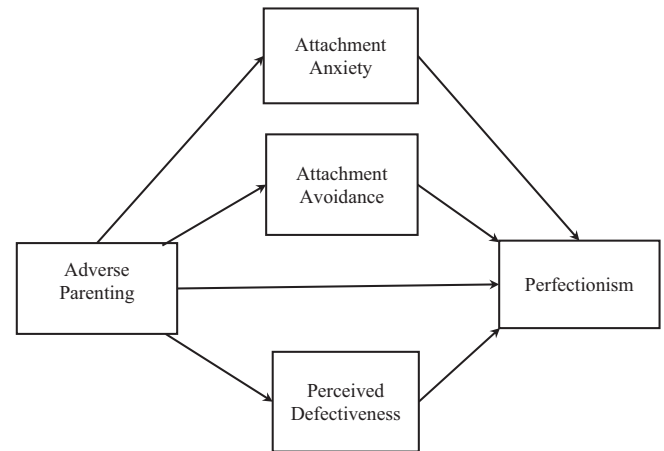
Means, standard deviations, and Cronbach alpha coefficients for study variables are displayed in Table 1. The descriptive statistics are generally comparable with previous studies using college samples (e.g., Chen et al., 2015; Feeney et al., 1994; Hawke & Provencher, 2012; Hewitt et al., 2003; Hewitt & Flett, 1991; Robbins, 1994). Cronbach’s alphas were satisfactory (i.e., 0.76–0.95) for all variables. In line with the PSDM, adverse parenting was positively correlated with SPP and all perfectionistic self-presentation styles. Adverse parenting was also associated positively with attachment anxiety, attachment avoidance, and perceived defectiveness. Additionally, consistent with previous work

**Table 1**

Bivariate correlations, means, standard deviations, and coefficients alpha of trait perfectionism dimensions, perfectionistic self-presentation styles, adverse parenting, attachment anxiety and avoidance, and perceived defectiveness ( $n = 344$ ).

Variables	Self-oriented	Other-oriented	Socially prescribed	Self-promotion	Nondisplay	Nondisclosure	Adverse parenting	Attachment anxiety	Attachment avoidance	Perceived defectiveness
Trait perfectionism										
Self-oriented	–									
Other-oriented	0.39**	–								
Socially prescribed	0.42**	0.28**	–							
Perfectionistic self-presentation										
Self-promotion	0.56**	0.27**	0.48**	–						
Nondisplay	0.37**	0.11	0.42**	0.68**	–					
Nondisclosure	0.31**	0.11	0.50**	0.53**	0.50**	–				
Adverse parenting	–0.08	–0.01	0.40**	0.16**	0.14*	0.25**	–			
Insecure attachment										
Attachment anxiety	0.23**	0.10	0.44**	0.39**	0.53**	0.44**	0.28**	–		
Attachment avoidance	0.16**	0.04	0.37**	0.24**	0.30**	0.67**	0.36**	0.51**	–	
Perceived defectiveness	0.24**	0.00	0.40**	0.33**	0.33**	0.39**	0.33**	0.60**	0.38**	–
<i>M</i>	69.36	56.33	53.92	41.27	46.77	23.09	15.59	43.55	51.25	1.39
<i>SD</i>	14.36	10.43	12.56	11.02	10.44	7.58	6.02	10.35	11.08	2.75
$\alpha$	0.89	0.76	0.84	0.88	0.87	0.82	0.95	0.86	0.82	0.95

\*  $p < .05$ , \*\*  $p < .01$  (2-tailed).



**Fig. 1.** The developmental portion of the PSDM (Hewitt et al., 2017) depicting attachment anxiety, attachment avoidance, and perceived defectiveness as mediators of the relationship between adverse parenting and perfectionism.

(e.g., Boone, 2013; Chen et al., 2012; Reis & Grenyer, 2002), all trait and self-presentational dimensions of perfectionism (except for OOP) were positively correlated with attachment anxiety, attachment avoidance, and perceived defectiveness (see Table 1).

#### 3.2. Mediation by bootstrapping

Next, parallel multiple mediation analyses by bootstrapping were conducted to investigate the hypothesis that the associations between adverse parenting and various components of perfectionism are mediated by attachment anxiety, attachment avoidance, and perceived defectiveness. To test for the mediating effects of attachment insecurities and perceived defectiveness, we utilized the PROCESS Model 4 (Hayes, 2013). Fig. 1 depicts the three-mediator model in which the predictor variable (adverse parenting) is modelled as affecting the outcome variable (perfectionism) through three indirect pathways: 1) attachment anxiety, 2) attachment avoidance, and 3) perceived defectiveness. Each of the mediating effects is being tested while controlling for the other two mediators. All indirect effects were subjected to bootstrap

**Table 2**

Attachment anxiety, attachment avoidance, and perceived defectiveness as mediators of the associations between adverse parenting and perfectionism (n = 344).

Dependent variable (DV)	Mediator (M)	Adverse parenting (IV) on mediator	M on DV	Direct effect	Indirect effect	Indirect effect 95% CI	Total effect
Self-oriented	Total effect			-0.49***	<b>0.32</b>	<b>0.17–0.49</b>	-0.18
	Attachment anxiety	0.04***	2.38		<b>0.09</b>	<b>0.01–0.21</b>	
	Attachment avoidance	0.04***	2.00		0.08	-0.02–0.21	
	Defectiveness	0.15***	0.98**		<b>0.15</b>	<b>0.04–0.29</b>	
Other-oriented	Total effect			-0.06	0.04	-0.07–0.13	-0.03
	Attachment anxiety	0.04***	1.97*		<b>0.07</b>	<b>0.01–0.18</b>	
	Attachment avoidance	0.04***	0.15		0.01	-0.08–0.10	
	Defectiveness	0.15***	-0.29		-0.04	-0.16–0.05	
Socially prescribed	Total effect			0.52***	<b>0.31</b>	<b>0.20–0.47</b>	0.84***
	Attachment anxiety	0.04***	3.70***		<b>0.14</b>	<b>0.06–0.26</b>	
	Attachment avoidance	0.04***	1.97		0.08	-0.01–0.19	
	Defectiveness	0.15***	0.64*		<b>0.10</b>	<b>0.01–0.23</b>	
Self-promotion	Total effect			0.05	<b>0.25</b>	<b>0.13–0.40</b>	0.30**
	Attachment anxiety	0.04***	3.90***		<b>0.14</b>	<b>0.06–0.26</b>	
	Attachment avoidance	0.04***	0.55		0.02	-0.07–0.12	
	Defectiveness	0.14***	0.55		<b>0.08</b>	<b>0.01–0.18</b>	
Nondisplay	Total effect			-0.05	<b>0.29</b>	<b>0.17–0.44</b>	0.24*
	Attachment anxiety	0.04***	6.41***		<b>0.24</b>	<b>0.13–0.39</b>	
	Attachment avoidance	0.04***	0.87		0.04	-0.05–0.15	
	Defectiveness	0.14***	0.11		0.02	-0.07–0.08	
Nondisclosure	Total effect			-0.05	<b>0.37</b>	<b>0.26–0.48</b>	0.31***
	Attachment anxiety	0.04***	0.80		0.03	-0.01–0.08	
	Attachment avoidance	0.04***	6.53***		<b>0.29</b>	<b>0.20–0.40</b>	
	Defectiveness	0.14***	0.33*		<b>0.05</b>	<b>0.01–0.11</b>	

Note: Bolded confidence intervals do not include a zero, indicating a significant indirect (i.e., mediating) effect.

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

analyses with 5000 bootstrap samples and a 95% confidence interval (CI). A bias-corrected bootstrap 95% confidence interval for the product of these paths that does not include zero provides evidence of a significant indirect effect (Hayes, 2013).

Findings generally support the hypothesized mediation model depicted in Fig. 1 from the PSDM. Specifically, adverse parenting exerted a significant indirect effect on all trait and self-presentational perfectionism dimensions through combinations of the proposed mediating variables (see Table 2). A closer examination of the indirect pathways revealed different sets of mediating variables underlie different perfectionism dimensions. Attachment anxiety and perceived defectiveness were significant mediators of the pathways from adverse parenting to self-oriented perfectionism, socially prescribed perfectionism, and perfectionistic self-promotion, while attachment avoidance and perceived defectiveness were significant mediators of the link between adverse parenting and nondisclosure of imperfection. Lastly, attachment anxiety was the only significant mediator of the pathway from adverse parenting to other-oriented perfectionism and nondisplay of imperfection.

#### 4. Discussion

The present study aimed to shed light on a developmental mechanism of perfectionism as outlined in the PSDM (Hewitt et al., 2017) by replicating and extending the extant literature on the interrelationships among adverse parenting, attachment insecurities, perceived defectiveness, and perfectionism. First, consistent with the PSDM and previous studies (e.g., Frost et al., 1991; Hibbard & Walton, 2014; Soenens et al., 2005), adverse parenting was positively associated with various perfectionism components (i.e., SPP and perfectionistic self-presentation styles). Furthermore, similar to earlier findings (e.g., Boone, 2013; Chen et al., 2015; Reis & Grenyer, 2002), attachment anxiety and avoidance were both significantly associated with all perfectionism dimensions with the exception of OOP. Second, to our knowledge, the present study was the first to establish empirical links between perceived defectiveness and all trait and self-presentational perfectionism dimensions, except for OOP. Finally, we also found support for the PSDM (Hewitt et al., 2017) by demonstrating that the

associations between adverse parenting and perfectionism dimensions were at least partially explained by attachment insecurities and/or perceived defectiveness.

In line with the PSDM (Hewitt et al., 2017), we found significant associations between adverse parenting and perfectionism dimensions (i.e., SPP and perfectionistic self-presentation styles). Likewise, as hypothesized, there were significant associations between perceived defectiveness and perfectionism dimensions (except for OOP). The PSDM asserts that the development of perfectionistic behaviors lay somewhere in childhood, especially in early relationships with primary caregivers. Problematic or asynchronous caregiver-child relationships can drive feelings of self-doubt, defectiveness/shame, and an intense longing for connectedness and acceptance (Bowlby, 1969; Hamachek, 1978; Horney, 1939; Kohut, 1971). These unmet needs and wishes can fuel perfectionistic behaviors aimed at securing connectedness and acceptance and preventing humiliation and rejection by significant others (Chen et al., 2015; Hamachek, 1978; Hewitt et al., 2017; Missildine, 1963). The present findings are also consistent with prior research linking perfectionism with negative parenting styles, including heightened psychological control (e.g., Soenens et al., 2005), neglectful parenting (e.g., Hibbard & Walton, 2014), and a lack of parental warmth/affection (e.g., Frost et al., 1991). The close association found elsewhere between OOP and grandiose narcissism (Smith et al., 2016) may suggest that individuals with elevated OOP dismiss or downplay adverse parenting experiences and perceived defectiveness to protect their fragile self-esteem.

Similarly, in line with the PSDM (Hewitt et al., 2017), we found significant associations between attachment insecurities and all trait and self-presentational perfectionism dimensions, except for OOP. When the attachment system is activated, insecurely attached individuals seek to re-establish proximity and emotional dependence on others (i.e., hyperactivating strategies in anxious attachment) and/or self-reliance and independence from others (i.e., deactivating strategies in avoidant attachment) (see Mikulincer, Shaver, & Pereg, 2003). Consistent with prior studies (e.g., Boone, 2013; Chen et al., 2015; Reis & Grenyer, 2002), our results indicate that perfectionistic individuals can alternate between hyperactivating and deactivating strategies when dealing with attachment-related threats (e.g., loss, rejection, and

conflicts). These attachment-related strategies can manifest in perfectionistic tendencies and behaviors. By trying to be or appear perfect/flawless, perfectionistic individuals seek to regain connectedness and approval via maladaptive behaviors such as excessive reassurance seeking and intrusiveness while maintaining distance from others via self-protective defenses including hostility, social avoidance, and emotional suppression. However, attachment needs may manifest differently in OOP; instead of emotionally depending on or pulling away from relationships, other-oriented perfectionists may attempt to gain acceptance through deflecting judgment away from the self by criticizing others.

Most importantly, we found additional support for the developmental portion of the PSDM (Hewitt et al., 2017) by demonstrating that adverse parenting was related to trait and self-presentational perfectionism via attachment insecurities and/or perceived defectiveness. Specifically, adverse parenting was linked to distinct constellations of attachment insecurities and perceived defectiveness underlying different components of perfectionism. First, adverse parenting had an indirect effect on self-oriented perfectionism, socially prescribed perfectionism, and perfectionistic self-promotion via attachment anxiety and perceived defectiveness. Second, adverse parenting had an indirect effect on nondisclosure of imperfection via attachment avoidance and perceived defectiveness. Lastly, adverse parenting had an indirect effect on other-oriented perfectionism and nondisplay of imperfection via attachment anxiety.

These findings show that the PSDM applies to all facets of trait perfectionism and perfectionistic self-presentation, which is in contrast to Stoeber, Noland, Mawenu, Henderson, and Kent's (2017) suggestion that SOP is not involved in the PSDM. Furthermore, the current PSDM (Hewitt et al., 2017) differs from the earlier version (Hewitt, Flett, Sherry, & Caelian, 2006) in that all perfectionism traits involve relational elements (self-relational and other-relational). The present findings underscore this by demonstrating positive associations between SOP, OOP, SPP and forms of attachment anxiety (i.e., preoccupied and fearful attachment). Our results are also in accordance with Chen et al. (2012) and Chen et al. (2015)'s findings that perfectionistic self-promotion and nondisplay of imperfection were more strongly correlated with preoccupied and fearful attachment, while nondisclosure of imperfection was more closely associated with attachment avoidance (i.e., dismissing and fearful attachment). Collectively, given the negative self-models inherent in insecure attachment styles and the presence of a perceived defective self, these data suggest that negative self-models link adverse experiences with trait perfectionism and perfectionistic self-presentation.

On a related note, although these perfectionism dimensions were significantly associated with attachment anxiety and/or avoidance, it is possible that different facets of adverse parenting (i.e., a lack of autonomy support, involvement, and warmth) give rise to different forms of attachment insecurity and perceived defectiveness, which in turn, contribute to perfectionistic tendencies and behaviors through different developmental routes. For instance, individuals with a more anxious attachment style, intensely fearing rejection and abandonment and wishing for love, closeness, and/or admiration from others, may engage in behaviors aimed at bolstering their belongingness and accomplishments (i.e., SOP, SPP, and perfectionistic self-promotion) and preventing criticisms and rejection (i.e., OOP, SPP, and nondisplay of imperfection). On the other hand, individuals with a more avoidant attachment style may shun or deny these fears and wishes by concealing distress and distancing from others (i.e., nondisclosure of imperfection).

#### 4.1. Limitations and future directions

First, our study examined a sample of young adults, so replicating the study in children and adolescents can provide further support for the PSDM. Second, our study was cross-sectional, meaning the stability of the mediated effects cannot be ascertained. Longitudinal studies are

necessary to establish temporal stability and examine the developmental trajectory of perfectionism. Third, we combined maternal and paternal ratings across different facets of parenting behaviors (i.e., autonomy support, involvement, and warmth). Future studies should look at mothers' and fathers' behaviors separately to investigate whether parent's gender can differentially influence perfectionism in children. Relatedly, future research should investigate the specificity of various facets of adverse parenting on different dimensions of attachment insecurity, and the specificity of various dimensions of attachment insecurity on different perfectionism dimensions.

#### 4.2. Concluding remarks

Taken together, the present findings highlight the importance of adverse parenting, attachment insecurities and perceived defectiveness in the development of trait and self-presentational perfectionism. This study also provides additional support for the development of perfectionism depicted in the PSDM (Hewitt et al., 2017).

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