



Youth Anxiety: The Moderating Effects of Accommodation and Emotional Warmth

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Abstract

Parental accommodation (i.e., modifying behavior to reduce child distress) is among the most empirically supported anxiety enhancing parenting practices; while emotional warmth (i.e., support and affection) has demonstrated a less clear link to anxiety. The current study aims to explore the interactive nature of emotional warmth within the context of accommodation. We hypothesized that accommodation would moderate the relationship between emotional warmth and anxiety. The sample included parents of youth ($N=526$) ages 7–17. A simple moderation analysis was conducted. Accommodation significantly moderated the relationship [$B=0.03$, C.I. (0.01, 0.05), $p=0.01$]. Additional variance was accounted for by adding the interaction term to the model ($R^2=0.47$, $p<0.001$). At high levels of accommodation, emotional warmth significantly predicted child anxiety symptoms. This study affirms that emotional warmth is significantly related to anxiety in the context of high accommodation. Future work ought to build upon these findings to explore these relationships. Limitations of the study include sampling and parent-report data.

Keywords Anxiety · Child · Adolescent · Parenting

Introduction

Anxiety symptoms are the most common mental health concern for youth. Lifetime estimates for anxiety disorders among youths have been shown to be as high as 30% [1, 2]. Anxiety is known to negatively affect children and their families in multiple realms including physical, familial, social, and academic [3]. Developmental models of child anxiety [4] have conceptualized the onset and course of anxiety as resulting from both parent- and child-level variables (e.g., parental coping style, parental psychological symptoms, child temperament, child attachment). For example, parent-level variables (e.g., parent's own psychopathology) have been linked to the exhibition of anxiogenic parenting practices (e.g., low warmth, over-control, modeling) which, in turn, have been hypothesized to increase a youth's vulnerability to and maintenance of anxiety symptoms [5]. The current study seeks to further examine the latter facets of

this triadic relationship (i.e., the link between anxiogenic parenting and child anxiety) with a particular focus on two parenting practices: one exhibiting a clear connection with child anxiety – accommodation – and another demonstrating equivocal findings within the child anxiety literature – emotional warmth.

Parental accommodation (i.e., parent modifying their own behavior in response to their child's anxiety) is among the most frequently studied and empirically supported anxiogenic parenting practices [6–8]. Accommodation may take numerous forms across diverse presentations of child symptoms. For example, accommodation may include providing reassurance in response to repeated questions, modifying family routines (e.g., parents altering their work schedules in order to walk their child into school each day), and facilitating avoidance of distressing situations (e.g., allowing the child to skip social events or activities; [6]). Accommodation alone has been strongly linked to increased severity of symptoms across anxiety and related conditions (e.g., obsessive-compulsive disorder) as well as externalizing behaviors (e.g., rage outbursts) in children [9, 10]. Highlighting the importance of accommodation in pediatric anxiety disorders, at least two studies have shown decreases in parental accommodation associated with decreased

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severity of children's post-treatment anxiety within trials of youths receiving cognitive-behavioral therapy [11, 12]. These findings supplement and support earlier research demonstrating that decreases in parental accommodation during treatment predict positive treatment outcomes in youth with OCD [13]. Collectively, these results clearly demonstrate that accommodation is strongly linked to the maintenance and treatment of child anxiety and related conditions. Contrarily, the role of emotional warmth in the context of anxious youth is less well understood.

Emotional warmth has been defined as support and affection towards youth (e.g., acceptance demonstrated by praise and physical affirmation; availability). More recent conceptualizations have viewed emotional warmth as falling along a spectrum of parenting behavior, ranging from warm and supportive to rejecting, hostile, and aversive [14]. Historically, developmental models have highlighted the importance of parental love and warmth for a child's healthy psychological development [15–17]. For example, parental warmth has been positively related to youths' psychological adjustment and inversely related to the presence of depressive symptoms following stressful events [18–20]. Perceived parental warmth has been correlated with child independence, positive self-esteem, self-adequacy, emotional responsiveness, stability, a positive worldview, and less hostility and aggression [21]. In summation, the broader child literature clearly implicates the strong and positive impact emotional warmth has on early childhood development and well-being. Within the context of child anxiety, however, conflicting results exist as to whether emotional warmth displays a positive (i.e., improves anxiety symptoms), negative (i.e., worsens anxiety symptoms), or neutral relationship to child anxiety. It is this relationship the current study seeks to clarify.

Emotional warmth has been linked to diminished child anxiety through both direct and indirect effects [22, 23]. For example, researchers hypothesize that emotional warmth may lead to greater positive self-image while a lack of emotional warmth may lead to lower self-esteem, both of which may contribute to protection against (or development of) social anxiety [24–26]. Furthermore, researchers have hypothesized that behaviors falling along the opposing end of the emotional warmth spectrum (i.e., aversiveness, hostility, rejection) may exacerbate anxiety in youth [27]. In fact, parental rejection is associated with increased anxiety symptoms among youth [22]. An equally large body of literature, however, appears to refute the aforementioned conclusions.

A contrary collection of empirical literature suggests that the relationship between emotional warmth and child anxiety is equivocal or that emotional warmth may even exert a deleterious impact on child anxiety [5, 28]. Bogels, van

Oosten, Muris and Smulders [29] found no relationship between emotional warmth and social fears in children. Van der Bruggen, Stams, Bögels and Paulussen-Hoogeboom [14] found that increased observed maternal warmth was actually associated with higher levels of childhood anxiety, corroborating prior work demonstrating that mothers of anxious children may exhibit more warmth than mothers of non-anxious children [30]. These findings have led some researchers to hypothesize that the role of emotional warmth may be best explained by its co-occurrence with other parenting practices (e.g., lack of discipline, overinvolvement, overcontrol) [14, 31]. For example, Williams, et al. [31] found that greater permissive parenting (i.e., high warmth and low control) was related to greater preschool internalizing problems (e.g., anxiety, depression). Furthermore, Van der Bruggen, Stams, Bögels and Paulussen-Hoogeboom [14] theorized that a parent who is supportive (i.e., exhibiting greater warmth), but not overinvolved, may exert a positive impact on an anxious child (e.g., encouraging the child and providing appropriate levels of independence), whereas a parent who is supportive and overinvolved may diminish a child's autonomy and hinder the development of their own coping mechanisms [14].

As the work of Williams, et al. [31] and Van der Bruggen, Stams, Bögels and Paulussen-Hoogeboom [14] suggests, the indistinguishable link between emotional warmth and child anxiety demonstrated thus far may be explained by the interactive nature of emotional warmth with other parenting practices, such as accommodation. Said another way, it may be the case that the direction and nature of emotional warmth's relationship with child anxiety is influenced by other anxiogenic parenting practices (e.g., accommodation). In this case, emotional warmth, without excessive accommodation, might serve to protect against (i.e., decrease) a child's anxiety symptoms (i.e., support a child's entry into feared situations, help them learn to cope with the uncertainty and fear, thus reducing the associated anxiety [23]). Conversely, emotional warmth within the context of accommodation (e.g., parent comforting the child and allowing them to avoid a birthday party) is likely to reinforce the child's fears related to the perceived danger of the situation, as well as beliefs about their inability to cope with it, ultimately, leading to an increase in the child's anxiety symptoms.

Parental accommodation has demonstrated a clear and strong link to anxiety symptoms in youth. Emotional warmth's association with child anxiety symptoms is mixed. We postulate in the current study that emotional warmth is related to child anxiety symptoms; however, this relationship is best understood within the context of another anxiogenic parenting practice. Specifically, we hypothesize that accommodation will significantly moderate the relationship

between emotional warmth and parent-reported youth anxiety such that at high levels of accommodation, emotional warmth will predict greater symptoms of youth anxiety, as compared to low and moderate levels of accommodation. That is, when a parent accommodates at a high level (e.g., more frequently allows avoidance of feared situations) and is warm and supportive, a child's anxiety will increase.

Method

This study was approved by the University's Institutional Review Board as part of a larger examination of anxiogenic parenting practices. The sample included parents of youth ($n=526$) who spoke English as a primary language, had a child between 7 and 17 years old who they lived with at least 50% of the time, responded accurately to all five reliability check questions interspersed through the survey (e.g., are you a dog?), and completed all relevant measures online. See Table 1 for demographic characteristics.

Measures

The Parenting Anxious Kids Rating Scale- Parent Report (PAKRS-PR) [5] is a 32-item parent-report measure assessing anxiogenic parenting practices across five domains (i.e., conflict, over-involvement, accommodation and beliefs, modeling, and emotional warmth). Items are rated on a 7-point Likert scale from "Strongly Disagree" [1] to "Strongly Agree" [7]. Research has demonstrated good reliability ($\alpha=0.84$) and validity of the PAKRS-PR in an internet sample [5]. The current study utilized the 7-item emotional warmth subscale. Within this study, the

subscale demonstrated acceptable internal consistency ($\alpha=0.75$). Strong convergent validity has been reported for the emotional warmth subscale as evidenced by positive correlations with the Alabama Parenting Questionnaire's involvement ($r=0.57$, $p<0.001$) and positive parenting ($r=0.55$, $p<0.001$) subscales [5].

The Family Accommodation Scale- Anxiety (FASA) [6] is a self-report measure assessing parent accommodation in anxiety disorders. The FASA has demonstrated good internal consistency ($\alpha=0.90$ and 0.91 in specialty and general clinics, respectively). The FASA has also demonstrated good convergent and divergent validity exhibiting positive correlations with the Screen for Child Anxiety Related Emotional Disorders ($r=0.45$, $p<0.001$) and non-significant correlations with the Mood and Feeling Questionnaire depression measure, respectively [6]. For the purposes of the current study, the previously established 9-item total accommodation score was used [6]. In the current study's sample, the FASA demonstrated excellent internal consistency ($\alpha=0.93$).

The Spence Child Anxiety Scale Parent Version (SCAS-P) [32] is a 38-item parent-report measure assessing child anxiety symptoms. The six subscales measure facets of anxiety (i.e., Panic attack and agoraphobia, Separation anxiety disorder, Social phobia, Physical injury fears, Obsessive-compulsive disorder, and Generalized anxiety disorder). The SCAS-P has demonstrated strong internal consistency ($\alpha=0.89$) and convergent validity via correlation with the Child Behavior Checklist-Internalizing subscale ($r=0.55$ in an anxiety disorder group and $r=0.50$ in a healthy control group; Nauta et al., 2004). The scale has also demonstrated strong divergent validity, as the SCAS-P's correlation with the CBCL- Externalizing scale is significantly weaker than the scale's correlation with the CBCL-Internalizing scale. ($Z=387.8$, $p<0.001$ in an anxiety group and $Z=49.8$, $p<0.001$ in a healthy control group). In the current study, the SCAS-P total score was utilized and demonstrated excellent internal consistency ($\alpha=0.96$).

The Depression, Anxiety, Stress Scale- Short Form Version (DASS-21) [33] is a 21-item self-report measure assessing anxiety, stress, and depression in adults. The DASS-21 has demonstrated strong psychometric properties [33–35]. The anxiety subscale, utilized within this study, has demonstrated strong internal consistency ($\alpha=0.87$), excellent convergent validity with the Beck Anxiety Inventory ($r=0.85$, $p<0.001$), and good divergent validity, as the Positive Affect subscale of the Positive and Negative Affect Schedule did not demonstrate a significant association with the DASS-21 anxiety subscale [33, 36]. In the current study, the DASS-21 anxiety subscale demonstrated strong internal consistency ($\alpha=0.89$). The anxiety scale was utilized as a control variable in the current study.

Table 1 Demographics

	Parent		Child	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Age	20.84	(7.94)	5.16	(2.92)
Anxiety	--	--	25.19	(20.06)
Emotional Warmth	36.50	6.37	--	--
Accommodation	19.74	8.83	--	--
	%	<i>N</i>	%	<i>N</i>
Sex				
Male	32.1	169	52.7	277
Female	67.9	357	47.3	249
Race				
Caucasian	79.5	418	74.7	393
African American	7.8	41	7.2	38
Hispanic-Latino	5.9	31	5.9	31
Asian	3.2	17	3	16
Native American	0.8	4	0.4	2
Multi-racial	2.7	14	8.2	43
Other	0.2	1	0.4	2
Missing	--	--	0.2	1

Procedures

Recruitment and data collection were conducted using Qualtrics online survey platform software, a platform which ensured data security through Amazon Mechanical Turk (MTurk). MTurk is a crowdsourcing platform where researchers post tasks for workers to complete. Participants registered on the site (i.e., workers) can complete tasks for compensation. Informed consent was obtained from all participants and eligibility was then determined via screener questions. Following informed consent, eligible participants completed several questionnaires aimed at understanding parenting risk factors for anxiety and related concerns. The survey took 22 min, on average, to complete. Upon conclusion of the survey, respondents were provided with a passcode by MTurk to receive compensation (i.e., \$1) for survey completion.

Preliminary Analyses

A moderation analysis was conducted to assess whether accommodation moderates the relationship between emotional warmth and youth anxiety. Based on prior research and theory, parental anxiety, child age, and child medication status were identified as possible covariates [4, 37].

After conducting initial Pearson correlations between these variables and our outcome of interest, only parental anxiety was significantly related to child anxiety at a $p < 0.001$; thus, parental anxiety was used as a covariate in the analyses described below. Assumptions were reviewed before analyses were conducted. While some skewness was evident, the central limit theorem applies [38].

Results

A simple moderation analysis was conducted to test whether parental accommodation moderates the relationship between parental emotional warmth and youth anxiety symptoms after controlling for parent anxiety (See Fig. 1). The interaction of emotional warmth and accommodation exhibited a significant association with anxiety ($\beta = 0.03$, $p = 0.01$; see Table 2). At high levels of accommodation, emotional warmth significantly predicted child anxiety symptoms ($p = 0.049$). At moderate levels of accommodation, emotional warmth did not significantly predict child anxiety symptoms ($p = 0.51$). At low levels of accommodation, emotional warmth also did not significantly predict child anxiety symptoms ($p = 0.09$); however, this relationship trended towards statistical significance ($p = 0.09$).

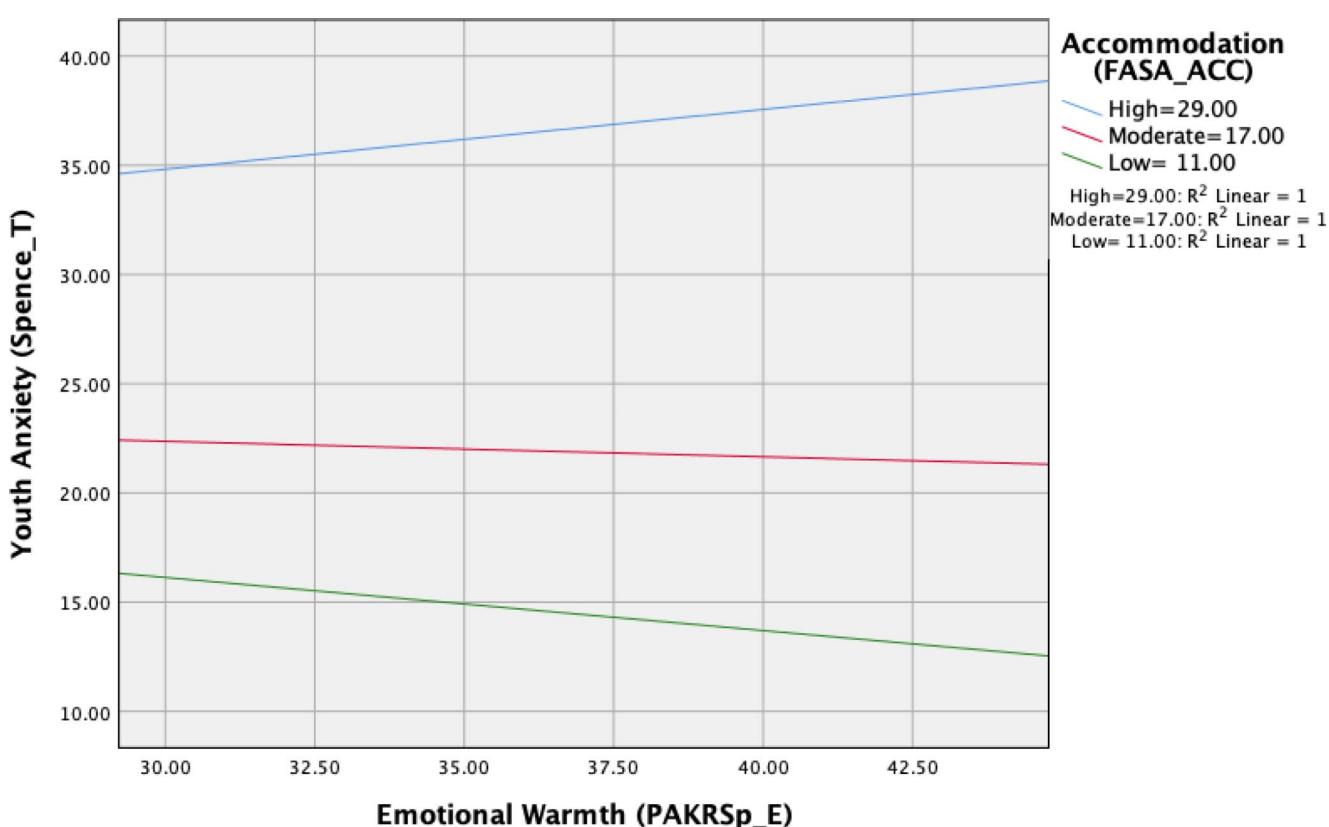


Fig. 1 Moderation of accommodation on the relationship between emotional warmth and anxiety

Table 2 Moderation analysis

	b	SE B	t	p
Constant	17.57 [-0.41, 35.55]	9.15	1.92	<i>p</i> =0.06
Emotional Warmth	-0.56 [-1.04, -0.08]	0.25	-2.28	<i>p</i> =0.02
Accommodation	0.18 [-0.63, 0.99]	0.41	0.43	<i>p</i> =0.67
Emotional Warmth x Accommodation	0.03 [0.01, 0.05]	0.01	2.61	<i>p</i> =0.01

Note. $R^2=0.47$, $p<0.001$

Discussion

This study aimed to further clarify the role that emotional warmth plays in relation to childhood anxiety. Specifically, data were analyzed to examine the moderating effect of accommodation on the relationship between emotional warmth and childhood anxiety. Results demonstrated a significant interaction suggesting that at high levels of accommodation, emotional warmth may predict childhood anxiety. What follows is a synthesis of this study's findings as well as a discussion pertaining to clinical implications, future areas of research, and limitations to consider.

Findings described herein suggest that, for a parent who demonstrates high levels of accommodation (e.g., facilitates their child's avoidance of feared situations), emotional warmth may be detrimental, resulting in increased anxiety. One plausible explanation for this finding may be that, at high levels of accommodation, warmth functions as acceptance/validation that the child cannot handle the fear elicited from the situation [14]. For example, a child exhibiting a fear of bees may learn that their fear is appropriate and this fear may be inadvertently reinforced (e.g., a parent comforting the child and allowing them to avoid going outside in the summer when bees may be present). Future work is necessary to replicate this finding, given that the current results narrowly hit the threshold for significance. Alternatively, for a parent who demonstrates low or moderate levels of accommodation (e.g., infrequently permitting avoidance of feared situations), warmth may demonstrate a less robust link to increased anxiety; however, replication and extension of this research is warranted to confirm these hypotheses. Further, future research may also benefit from specifically exploring the relationship between emotional warmth and anxiety at low levels of accommodation. The current study demonstrated a trend towards statistical significance in relation to this intersection of accommodation and emotional warmth. It may be the case that, in the context of low accommodation, increased parental warmth is associated with low levels of anxiety. This discrepancy may explain the equivocal relationship between warmth and youth anxiety thus far in the literature. Collectively, findings from this study concur

with previous work by Van der Bruggen, Stams, Bögels and Paulussen-Hoogeboom [14] and Williams, et al. [31] suggesting that the role of emotional warmth in child anxiety symptomology may be best explained by its co-occurrence with other parenting practices. For example, Van der Bruggen, Stams, Bögels and Paulussen-Hoogeboom [14] theorized that higher parental warmth coupled with overinvolvement may diminish a child's autonomy and the development of their own coping skills. Results from the current study and this past research highlight the importance of future exploration into the relationship between emotional warmth and other parenting practices. In turn, work of this nature may elucidate how childhood anxiety treatments may be enhanced.

Validated treatments for childhood anxiety often include targeting parental accommodation—sometimes directly and, in other instances, indirectly. For example, Coping Cat is a treatment that targets accommodation indirectly, while the Supporting Parenting for Anxious Childhood Emotions (SPACE) program targets it directly [39, 40]. For instance, in Coping Cat, the parent is instructed to support and encourage the child's brave behavior (e.g., approach behavior such as waving to a neighbor instead of walking by without eye contact). Additionally, in SPACE the parent is encouraged to validate, use supportive statements, acknowledge the child's anxiety, and express confidence in the youth's coping ability. While both interventions also include elements of warmth, the field's understanding of how or if emotional warmth should be targeted within treatment is not well-defined. Results from the current investigation suggest that when a client's parent scores greater than or equal to 29 on the FASA, emotional warmth may be an important parenting practice to target (i.e., specifying when and how to engage in it) as part of treatment. This study demonstrates that the encouragement and physical affirmation (e.g., hug, high five) around approach scenarios may be important elements to emphasize in highly accommodating families. Future research may seek to examine whether identifying these families (based on measures such as the PAKRS-PR) and utilizing specific emotional warmth modules could be a beneficial addition to current treatment strategies.

While the current study suggests emotional warmth's potentially detrimental role in anxiety at high levels of accommodation, future work may benefit from investigating emotional warmth's relation to other aspects of parenting and treatment. For example, perhaps the function of incorporating emotional warmth in treatment is to benefit the parent as well as the child. This incorporation may allow parents to more successfully decrease accommodation, a task that can be emotionally challenging, as it appears to be counterintuitive (e.g., allowing avoidance often increases a child's anxiety in the short-term, whereas decreasing avoidance often increase a child's anxiety in the short-term but decreases it in the long-term) [41]. Demonstrating warmth may allow parents who are decreasing accommodation to replace their accommodating statements with more supportive and constructive ones (e.g., "you are brave and can do hard things" instead of "this is too scary for you so you don't have to do it").

Given that this was a non-referred internet sample using cross-sectional methodology, future research ought to replicate and expand the current study's findings. While the current study began to clarify emotional warmth's role in anxiety, further exploration into the mechanisms underlying emotional warmth is warranted. Future research may benefit from examining whether emotional warmth is qualitatively different in high versus low accommodation groups. Perhaps it is not the tone/style that is critical in warmth, but instead the content and context of the supportive statements that are being communicated to the child. Statements expressed in a warm manner by a parent who accommodates may be very different from statements expressed in a warm manner by a parent who does not accommodate. For example, in the SPACE program, supportive statements are directly linked to reconstructing/ building the child's self-esteem and their view of their ability to handle the fear (e.g., "I know this is hard for you and you are brave and can do this"). Whereas one can imagine supportive statements from a highly accommodating parent, may by nature be decreasing self-efficacy (e.g., "I know this is too hard for you, you don't have to do it"). Research may benefit from a more comprehensive understanding of how and when emotional warmth and supportive parenting may play differential roles in anxiety maintenance. Future work ought to also explore the relationship between anxiogenic parenting practice across child development, as the role of parents shifts across time.

The current study offers promising results to further the information related to emotional warmth in the context of anxiety; however, several noteworthy limitations ought to be considered. First, the use of an internet sample, although allowing for a broader exploration, has several limitations. For example, selection bias is possible as it could

exclude eligible participants who do not have access to or proficiency with the internet or MTurk. Also, environmental factors that diminish attention could not be controlled; however, validity check questions were added to the survey to confirm adequate attention. This study utilized parent self-report data, which offers valuable insight into the child's behavior/symptoms. However, future work should include complementary methodology (e.g., child-report, clinician-report, and behavioral measures). Additionally, future research ought to examine the parenting practices discussed herein within a longitudinal design, given that the current study could not make causal conclusions due to the cross-sectional nature of this data. Finally, families included within the current study hailed from a non-referred sample – not a clinically ascertained sample; thus, interpretations regarding direct impact on treatment are limited and replication is needed within a treatment-seeking sample.

Despite the above-mentioned limitations, the current study makes a considerable contribution to the literature pertaining to parenting practices and youth anxiety. To this point, emotional warmth's relationship with youth anxiety has remained indistinguishable. The current study builds upon past literature and begins to clarify the role emotional warmth may play, specifically that its role is dependent on its interaction with other parenting practices. Future work would benefit from building upon the evidence from this study, to further elucidate the interaction of various parenting practices.

Summary

Anxiety enhancing parenting practices have been hypothesized to increase a youth's vulnerability to and maintenance of anxiety symptoms. Parental accommodation is among the most empirically supported anxiogenic parenting practices [5, 6]. Emotional warmth is a parenting practice that has demonstrated an indistinguishable link to anxiety thus far. While adjustment literature implicates the strong impact emotional warmth has on early childhood development [21], its relationship to anxiety is less clear. Some research supports the protective impact emotional warmth might exert on internalizing symptoms, while other research supports the potential negative impact. These conflicting bodies of literature may be explained by the interactive nature of emotional warmth within the context of other parenting practices such as accommodation. In the current study we hypothesized that accommodation would significantly moderate the relationship between emotional warmth and anxiety (i.e., emotional warmth would predict greater symptoms of youth anxiety at high levels of accommodation). Specifically, when a parent accommodates at a high level and is

warm and supportive, a child's anxiety would increase. A simple moderation analysis was conducted. Accommodation was found to significantly moderate the relationship between emotional warmth and anxiety. At high levels (but not low or moderate levels) of accommodation, emotional warmth significantly predicted child anxiety symptoms. This study affirmed that emotional warmth is significantly related to anxiety only in the context of accommodation. Emotional warmth in the context of accommodation might reinforce anxiety. If a warm, nurturing parent soothes a child's distress, but does not encourage entry into fearful situations, this may reinforce the danger of the situation, as well as the child's inability to cope with it.

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Data Availability Not applicable.

Declarations

Competing Interests Christopher Flessner receives royalties from Guilford Press.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. This study was approved by Kent State University's Institutional Review Board as part of a larger study. Informed consent was obtained from all individual participants including in the study.

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