POSITIVE PARENTING AND SHIFT-AND-PERSIST: A COMBINATION SUPPORTING YOUTH REGULATION IN THE CONTEXT OF POVERTY

by

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(Under the Direction of Cynthia Suveg)

ABSTRACT

Objective: This study examined the role of shift-and-persist on youth psychological (i.e., internalizing and externalizing problems, emotion regulation) and sleep adjustment in impoverished youth. *Method*: All variables were assessed using questionnaires. In addition, parenting was assessed via observations and youth emotion regulation was assessed via physiological assessment (RSA suppression). *Results*: Results were not significant for the mediation and moderation models. However, maternal positivity towards child was negatively related to youth externalizing and sleep problems. Shift-and-persist was positively related to maternal positivity towards child and maternal acceptance. *Conclusions*: Maternal positivity is particularly important for youth development in the context of poverty.

INDEX WORDS: Parenting, Internalization, Externalization, Sleep, Shift-and-Persist, Poverty, Youth

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CHAPTER 1

INTRODUCTION

Youth who grow up in the context of severe poverty are at high risk for a number of frequent, recurring, and largely uncontrollable adversities, including food insecurity, exposure to violence, and lack of resources that can undermine development (Brady & Matthews, 2002; Evans, Li, & Wipple, 2013; Leventhal & Brooks-Gunn, 2000; Repetti, Taylor, & Seeman, 2002). Such exposure to chronic adversity is a critical risk factor for mental and physical health problems across the lifespan (Braveman, Cubbin, Egerter, Williams, & Pamuk, 2010; Galobardes, Lynch, & Smith, 2008; Johnson, Cohen, Dohrenwend, Link, & Brooks, 1999). Poverty experienced in childhood has been linked to internalizing, externalizing, and academic problems, as well as low levels of social competence both in childhood and later in life (e.g., Conger et al., 2002; Lander-Potts, Wickrama, Simons, Gibbons, & Conger, 2015; Simons et al., 2016; Slopen, Fitzmaurice, Williams, & Gilman, 2010). Relatedly, poverty has a negative effect on cognitive, learning, and achievement outcomes and has also been linked to increased risk for grade repetition and school suspension, expulsion, and dropout (Bradley & Corwyn, 2002; Conger & Donnellan, 2007; Duncan, Magnuson, Kalil, & Ziol-Guest, 2012; Ross et al., 2012). Finally, chronic exposure to adversity and stressors can result in hypervigilance and increased alertness, resulting in difficulty falling and staying asleep (Buckley & Schatzberg, 2005). Sleep problems in preadolescence have been linked to internalizing, (e.g., depression), externalizing (e.g., delinquency, conduct problems) and academic problems (Beebe, Rose, & Amin, 2010;

Clinkinbeard, Simi, Evans, & Anderson, 2011; Lovato & Gradisar, 2014; Owens, Wang, Lewin, Skora, & Baylor, 2017).

Although poverty is a potent risk factor for a number of poor outcomes, many impoverished youth demonstrate resilience and maintain positive outcomes despite such adversity (Masten & Labella, 2016). As such, it is important to identify protective factors that can be targeted to promote healthy development in the context of poverty. Two critical processes include parenting and youth self-regulation. Positive and supportive parenting behaviors can buffer poor outcomes, in part, by facilitating adaptive emotion regulation and coping skills. Further, parents can also model responses to adversity consistent with a shift-and-persist mindset, a response that has been posited to be uniquely beneficial for buffering low SES individuals from negative physical health outcomes (Chen & Miller, 2012). This study builds on prior literature by investigating the role of shift-and-persist, which has previously only been investigated in relation to physical health outcomes and depression, on youth psychological (i.e., internalizing and externalizing problems), sleep, and academic adjustment. As such, this study seeks to extend research on resilience factors for youth from impoverished backgrounds. The proposed model (see Figure 1) suggests that, in the context of poverty, positive parenting behaviors have a protective effect on youth's outcomes by facilitating a shift-and-persist mindset and the adaptive development of emotion regulation.

Parenting in the Context of Poverty and Relations to Youth Regulation

The Family Stress Model (FSM) posits that economic hardship affects children's development through increases in parental stress and psychological distress, leading to a decrease in parenting quality and the use of more negative parenting behaviors (e.g., lack of warmth and support, harsh disciplinary practices, inconsistency; Conger et al., 2004; Conger &

Donnellan, 2007). Such negative parenting behaviors, in turn, have been linked to increased internalizing and externalizing problems in early and middle childhood, as well as adolescence (Conger et al., 1992; Gershoff, 2010; Puff & Renk, 2014; Reising et al. 2013). Lower SES parents often face many demands (e.g., working multiple jobs, long hours) and are more likely to be single parents and suffer from their own psychopathology (e.g., depression, Everson et al., 2002; Feder et al., 2009). These life circumstances can negatively affect the amount and quality of time they spend with their children, reducing parents' ability to appropriately attend and respond to the needs of their children. Though often not intentional, parenting and family environments in the context of poverty are often characterized as cold and harsh (Repetti et al., 2002).

While models like the FSM provide useful information regarding deficits commonly associated with impoverished families, such models do little to explain how a number of impoverished families maintain resilience and overcome the high risks for maladjustment and negative outcomes despite the adversities they face. Thus, it is important to understand the sources of resilience in such families and youth rather than simply focusing on risk factors and maladjustment. High quality parenting (e.g., maternal warmth) has consistently emerged as a robust protective factor for a range of risks, including poverty and other types of adversity (e.g., Kim-Cohen, Moffitt, Caspi, & Taylor, 2004; Labella, Narayan, McCormick, Desjardins, & Masten, 2019; Masten & Labella, 2016). For example, parental monitoring, nurturance, and acceptance have been associated with lower levels of externalizing behaviors (e.g., substance use) in the context of poverty (Griffin, Botvin, Scheier, Diaz, & Miller, 2000; Rohner & Britner, 2002). Moreover, warm and consistent parenting has been shown to buffer children from some

of the negative outcomes associated with poverty (e.g., academic problems, antisocial behavior, emotional distress, poor peer relationships, low self-esteem; Conger & Conger, 2002).

Positive parenting may be a powerful buffer against the negative outcomes associated with poverty by facilitating healthy emotion regulation skills in youth. Effective emotion regulation (ER), or the modulation of emotional arousal in response to environmental demands, has been demonstrated to buffer children from a range of risks throughout the lifespan (Blair & Raver, 2012; Cole, Michel, & Teti, 1994; Gross, 1998). Emotion dysregulation, on the other hand, has been implicated in many forms of psychopathology (Bradley et al., 2011; Carthy, Horesh, Apter, & Gross, 2010). Early in life, children rely on parents to support their emerging self-regulatory skills, as parents help children learn strategies to appropriately express and regulate their emotions (Bernier, Carlson, & Whipple, 2010; Eisenberg, Cumberland, & Spinrad, 1998; Fay-Stammbach, Hawes, & Meredith, 2014; Posner & Rothbart, 2000; Suveg, Shaffer, & Davis, 2016). In children's early years their regulation is largely influenced by external sources (e.g., parents), as children have yet to develop internal regulatory abilities. Such early support helps children to gain confidence and competence in appropriately managing their emotional experiences, thus contributing to the development of children's broader self-regulation skills. As children begin to foster autonomy, parents continue to scaffold the development of children's self-regulation by providing positive feedback, respecting children's autonomy, providing emotion coaching, and offering guidance without controlling or intruding (e.g., Shortt et al., 2010; Silverman & Ragusa, 1990). Such parenting behaviors in the preschool years have been linked to fewer adjustment problems and the development of appropriate regulation.

As youth enter the preadolescent and adolescent periods, the nature of the parent-child relationship changes, and as youth emerge into adolescence they strive for autonomy in a number

of areas. At this stage of development, youth rely less on their parents' external regulation and, instead, self-soothe and regulate their own emotions more independently; thus, their regulation begins to become more autonomous and internalized. Youth's self-regulatory skills are nonetheless bolstered by parents' encouragement of youth autonomy and scaffolding as appropriate. On the other hand, parental psychological control that constrains, invalidates, and/or manipulates the emerging adolescent's experiences and emotional expression has been linked to negative developmental outcomes including internalizing and externalizing problems (Barber & Harmon, 2002; Repetti & Taylor, 2002). The development of more autonomous self-regulatory skills in preadolescence is particularly important, given that this developmental period is associated with an increased risk for the development of internalizing (e.g., depression) and externalizing (e.g., substance use) problems. Moreover, due to the increased risk for externalizing problems in particular during this period, youth are likely to need more parental monitoring and support while maintaining their development of autonomy. These needs are even more significant for impoverished youth. Not only are youth from impoverished backgrounds at risk for poor self-regulation development, but they also face more frequent and chronic challenges (e.g., exposure to violence, food insecurities, housing adjustments, discrimination) on a daily basis than their more privileged peers. Parenting that includes high levels of support and monitoring with low levels of harshness has been demonstrated to enable youth to effectively cope with these daily stressors (Luthar, Cicchetti, & Becker, 2000). Appropriate scaffolding and monitoring from parents not only aids in the development of adaptive ER, but also serves to protect youth from some of the challenges that are commonly faced by impoverished youth. Thus, positive and supportive parenting behaviors that provide effective monitoring while

facilitating youth's development of autonomy are critical during this developmental period, particularly for impoverished youth.

Adaptive emotion regulation has been shown to buffer youth from a number of risks. In the context of impoverished youth specifically, better self-regulation is positively associated with emotional and behavioral adjustment (Buckner, Mezzacappa, & Beardslee, 2003; Fine, Izard, Mostow, Trentacosta, & Ackerman, 2003). Moreover, impoverished youth with better self-regulatory skills are more resilient to adverse psychological outcomes (Blair, 2010; Blair & Raver, 2012). The development of such regulatory skills, however, is often impaired in the context of poverty, and a lack of these skills has been linked to a number of poor outcomes (Blair & Raver; 2012; Cole & Deater-Deckard, 2009; Eisenberg, Spinrad, & Eggum, 2010). As such, appropriate regulatory abilities in the face of adversity are likely an important protective process, and factors (i.e., positive and supportive parenting) that facilitate the development of adaptive emotion regulation in the context of poverty are critical to identify.

Shift-and-Persist in the Context of Poverty

Although poverty is a potent risk factor for poor outcomes, some individuals are able to maintain positive outcomes despite such adversity using different coping strategies. Generally, three types of coping are recognized in the literature: primary, secondary, and disengagement (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001). Primary and secondary control strategies are both considered engagement coping. While primary control coping involves attempting to solve the problem or directly managing emotions (e.g., problem solving, emotion regulation), secondary control strategies involve efforts to adapt oneself to stressful circumstances (e.g., acceptance, cognitive restructuring, distraction; Compas et al., 2001). Disengagement coping, on the other hand does not involve efforts to actively change the

situation or adapt one's emotions, but instead involves responses such as avoidance and denial. Generally in the context of coping with normative, acute stressors over which the youth has some degree of control, engagement strategies are adaptive, whereas disengagement strategies are generally less efficacious, except in situations that are difficult to exert control (Wadsworth & Compas, 2002). The literature is mixed with regards to whether engagement strategies are adaptive in the context of poverty, with some research suggesting that such strategies have demonstrated positive effects (e.g., Coyle & Vera, 2013; Wadsworth & Santiago, 2008; Woodman & Hauser-Cam, 2013; Wolff, Wadsworth, & Santiago, 2010) while others have suggested negative outcomes (e.g., Rasmussen, Aber, & Bhana, 2004; Rosario, Salzinger, Feldman, & Ng-Mak, 2003). Generally, however, active or engagement coping strategies are less effective when applied in the context of uncontrollable stressors such as poverty (Carothers, Arizaga, Carter, Taylor, & Grant, 2016; Kliewer et al., 2006; Landis et al., 2007). As youth have less control, active approaches alone may lead to greater frustration and externalizing problems or a greater sense of helplessness and internalizing problems when they are unable to change their circumstance despite effort.

This literature collectively suggests that rather than attempting to identify the coping strategies that are generally associated with the most adaptive outcomes, it is more important to match appropriate types of coping with the particular type of stressor (Compas et al., 2001). Thus, coping in the context of poverty may require different approaches than coping with more normative, controllable, and acute stressors. Chen and Miller (2012) propose the shift-and-persist model, in which individuals adjust (i.e., shift) to their environment and circumstances through cognitive reappraisal of stressors in order to accept and adjust themselves to the adversity of their daily life. Specifically, shifting is a type of secondary control strategy (i.e.,

efforts to adjust the self to fit the world) that allows individuals to reframe and accommodate the self to stressors, rather than attempt to change the situation (i.e., through primary control strategies). At the same time, individuals endure their circumstances by maintaining their purpose for life and hope for their future despite adversity (i.e., persist). Prior work has linked the use of shift-and-persist strategies to better physical health outcomes (e.g., lower asthma inflammation, allostatic load, cardiovascular risk, body mass index) compared to individuals with lower levels of shift-and-persist (e.g., Chen, Miller, Lachman, Gruenewald, & Seeman, 2012; Chen, McLean, & Miller, 2015).

Of interest, these effects of shift-and-persist are only seen in low SES individuals (Chen, Lee, Cavey, & Ho, 2013; Chen et al., 2012; Chen et al., 2015). For example, Chen and colleagues (2011) found that higher shift-and-persist scores were associated with lower levels of asthma inflammation and predicted less asthma related impairment (e.g., school absences, rescue-inhaler use) for low SES adolescents, but not high SES adolescents. Because individuals from low SES backgrounds face a lifetime of adversities and constraints that are largely uncontrollable, reframing the stressors from something that needs to be changed to something that is less threatening, while believing that good can come, may be uniquely adaptive for individuals of poor backgrounds. In other words, low SES individuals are not likely to be able to use primary control strategies (e.g., situation selection and modification) given their circumstances; therefore, a strategy that focuses on reevaluating the situation in order to reduce its emotional impact is likely to be more helpful. Moreover, persisting may allow low SES individuals to focus on a larger purpose for life in the midst of adversity, thus aiding in the maintenance of hope. High SES individuals, on the other hand, can rely on a wider repertoire of primary control (i.e., efforts to influence the external world) and coping strategies (e.g., active

coping, problem solving) in order to resolve more malleable circumstances or situations in which they have a greater degree of control. Thus, shift-and-persist appears to be a context-specific coping strategy beneficial to low SES individuals who frequently encounter uncontrollable stressors, and is likely to be even more critical for impoverished individuals.

Moreover, it is argued that it is not sufficient to use only one of these strategies in isolation, but rather it is the combination of shifting and persisting that reduces risk for low SES individuals (Chen & Miller, 2012). In other words, simply reappraising the situation as one that must be accepted is not sufficient. Similar to how primary coping strategies may be maladaptive for impoverished individuals, so too are strategies that allow for the passive acceptance of stressors (e.g., denial, disengagement; Seiffge-Krenke & Klessinger, 2000; Wadsworth & Achenbach, 2005). Such disengagement coping responses are common for impoverished youth and have been linked to learned helplessness, internalizing symptoms (e.g., depression), and externalizing symptoms (Compas et al., 2001; Wolff, Wadsworth, & Santiago, 2010). While impoverished youth may find some relief from disengagement coping in the moment, reliance on such strategies has been associated with poor long-term outcomes and a lack of persistence when confronted with a challenge, consequently jeopardizing youth's social-emotional and academic success (Brown, 2009). Thus, it is necessary to also focus on the broader meaning of life and hope for the future in combination with the reframing of acceptance.

Although Chen and Miller's (2012) shift-and-persist model was developed specifically in relation to physical health-related resilience, it is likely that the characteristics associated with a shift-and-persist mentality also protect low SES individuals from poor social-emotional outcomes by aiding in the reduction of perceptions of stress. Chen and Miller (2012) argue that a shift-and-persist approach to life attenuates negative appraisals and emotions in response to

chronic adversity, which then reduces physiological stress reactivity (e.g., HPA reactivity). Thus, it is likely that youth who engage in shift-and-persist will evidence more adaptive emotional and physiological regulation, thus contributing to better psychological adjustment, sleep, and academic adjustment. Moreover, individuals who persist and have optimism about the future should be more likely to engage in adjustment-promoting activities and less likely to engage in behaviors that might be detrimental to their adjustment (e.g., drug or alcohol use, violence). Impoverished youth who have a more positive outlook of their future despite the adversities that they face will be more likely to engage in behaviors that increase their life opportunities and help them achieve their goals of the future they envision. For example, youth who engage in shift-and-persist may accept their current stressors, reframe them as temporary, and hope for a future in which they attend college and establish a career that will allow them to live in different circumstances. As such, these youth will be more likely to engage in behaviors to enhance their likelihood of achieving such goals (e.g., attend school). Moreover, such an outlook may reduce the likelihood of developing internalizing symptoms, due to less rumination and maladaptive thought patterns (e.g., learned helplessness). Finally, such youth may refrain from engaging in behaviors that would impede their goals, such as poor school attendance, violence, and substance use. Only one study, however, has investigated the links between shift-and-persist and psychological outcomes. Christophe and colleagues (2019) found that shift-and-persist buffered the positive relations between perceived economic hardship and depressive symptoms for Latinx youth, providing preliminary evidence of the protective effect of shift-and-persist for symptoms of depression. However, additional work is needed to determine whether shift-and-persist will have a similar buffering effect for broader internalizing difficulties, as well as externalizing, sleep, and academic problems.

The shift-and-persist model takes a developmental framework and posits that children in the midst of adversity learn shift-and-persist strategies from positive role models (e.g., parents, family members, teachers) who (1) facilitate secure attachment relationships that serve to promote optimism and persist strategies and (2) model the use of adaptive emotional and behavioral responses to stressors. In turn, youth learn to change how they think about the adversity they encounter, engage in meaning-making, and become future-oriented (Chen & Miller, 2012). Moreover, prior research focusing on factors that discriminate between impoverished families and youth with more successful outcomes from those with poorer outcomes have highlighted factors such as positive communication, problem solving, and cohesion around values (Barber & Bueler, 1996; Cox & Davis, 1999; Olson, 1995). Crosnoe and colleagues (2002) found that children from low SES families that have a sense of optimism (similar to the construct of shift-and-persist) have better school performance and are more likely to attend college. Parents who engage in shift-and-persist are likely to communicate and model this adaptive response to adversity to their children. Rather than teaching children they should attempt to use primary control strategies to change circumstances that are largely unchangeable or that they should simply accept such circumstances and expect a similar future, parents can model the reframing of such situations while maintaining hope for the future and striving towards that future. Parents can serve as role models to their children by positively communicating in a manner consistent with a shift-and-persist mentality, thus helping their children learn more adaptive regulatory skills in the context of largely uncontrollable stressors such as poverty.

The Current Study

Given that poverty has consistently been linked to maladjustment in youth, it is particularly important to investigate malleable protective factors that can be targeted to promote healthy development in the context of adversity during the critical preadolescent period. Positive and supportive parenting and youth self-regulation have both been implicated as protective factors in the context of poverty, and are largely related (i.e., parenting behavior influences youth development of regulation). Additionally, shift-and-persist characteristics have been linked to positive health outcomes and fewer depressive symptoms in low SES individuals. The current study uses a multi-method, multi-informant approach to build on prior research by investigating whether positive parenting facilitates adaptive development via shift-and-persist and ER. Although prior work has not directly investigated the links between shift-and-persist and youth broad psychological adjustment, sleep, and academic adjustment, it is hypothesized that positive parenting will facilitate adjustment in impoverished youth by facilitating a shift-and-persist-mindset and adaptive development of ER.

CHAPTER 2

METHOD

Participants

Participants included 96 mothers (*M* age = 35.37; SD age = 6.51) and their 9- to 12-year-old children (*M* age = 10.28 years; SD age = 1.19; 51% girls). The sample of parent-child dyads identified as African American (77.5%), Caucasian (13.7%), Hispanic (6.9%), and "Other" (1%). Parents reported that they had never been married (41.2%), were currently married (33.3%), divorced or separated (22.5%), or widowed (2%). Participants were recruited via afterschool programs, community liaisons, and flyers that were posted throughout the community. Inclusion criteria required that parents were the primary caregivers, both parents and their children were primarily English speaking, and the family's total household income was below 200% of the federal poverty level. Exclusionary criteria for participation in this study included children with a developmental delay and mothers who were currently pregnant or had a heart condition.

Procedures

Participants were recruited with the aid of a local organization that connected the research team with a network of community liaisons who made community members aware of the research project. Liaisons were reimbursed with $100 for each family that they referred and ultimately participated. Eligible participants visited the lab where parents provided consent and permission for their child to participate and youth provided assent. To collect RSA data during videotaped behavioral observation tasks, research assistants placed disposable electrocardiogram (EKG) electrodes on each member of the dyad. This study utilized data from a child stress task

and parent-child conflict discussion task. Following the tasks, parents and children completed questionnaires independently. Upon completion of the questionnaires, families were compensated $100 for participating in the study. All study procedures were approved by the University of Georgia's institutional review board.

Measures

Demographics. Parents completed a brief demographic questionnaire to provide basic information about themselves and their child, such as age, sex, race/ethnicity, parental marital status, parental employment, and family income.

Positive and Supportive Parenting. Positive and supportive parenting was assessed via youth report of parent behavior and observations of the dyad participating in a conflict discussion task. Both methods of assessment highlight key components of parenting behavior.

Child report. Children completed the Child's Report of Parental Behavior Inventory (CRPBI; Schludermann & Schludermann, 1988), a 30-item measure that assesses children's perceptions of parenting behavior. Youth rated each item on a 3-point Likert scale as "like," "somewhat like," or "not like" their parent. This measure consists of three dimensions assessing parental acceptance/rejection, encouragement of psychological autonomy/psychological control, and firm control/lax control. This study used the acceptance/rejection and firm control/lax control dimensions. The acceptance/rejection scale ($\alpha = .80$) measures children's perceptions of parental warmth, emotion connectedness, care, and affection, with higher scores indicating that the child feels more valued, important to, or appreciated by the parent. The firm/lax control scale ($\alpha = .63$) measures youth's perceptions of the extent to which the parent consistently enforces compliance by making rules and following through with consequences (i.e., consistently regulates and monitors the child's activities and behavior), with higher scores representing firm

control. The CRPBI has good psychometric properties (Alderfer et al., 2008; Kawash & Clewes, 1988).

Observational measure. Parents and youth participated in a 6-minute dyadic conflict discussion task. The dyad was presented with several notecards consisting of a variety of topics that parents and youth frequently disagree about (e.g., completing homework, cleanliness of bedroom, fighting with siblings), and they were instructed to select the three notecards with the topics that the pair most frequently disagrees about. After the pair selected the three topics, they were instructed to spend 6 minutes discussing the issues and identifying possible solutions. If the dyad finished discussing the three topics that cause the most disagreement, they were instructed to continue selecting other topics until the time expired. The research assistants left the room during the discussion and returned when the 6 minutes had elapsed.

Using a 7-point scale ranging from 1 = *Very low* to 7 = *Very high*, trained research assistants rated parents on the domains of positivity towards child and respect for child's autonomy. Positivity towards child reflects the degree to which the parent demonstrated positive regard, warmth, praise, and affection towards the child. Parents could display positivity both verbally (e.g., affectionate/complimentary comments, expressing concern for the child) and behaviorally (e.g., nodding in agreement, smiling, hugging). The highest levels of positivity toward child included both initiating and reciprocating signs of mutual positive regard. Respect for child's autonomy reflects the degree to which the parent affirmed the child's individuality through three dimensions of behavior: considering and validating the child's perspective (e.g., nodding, repeating back to the child, attempting to view the situation from child's perspective), expressing an interest in hearing the child's opinion (e.g., soliciting the child's position/reaction, asking "Do you agree?"), and demonstrating a willingness to negotiate (e.g., offering to change

one's behavior, attempting to balance competing interests). Coders considered the quantity of indicators displayed by the parent, as well as their frequency and quality (e.g., genuine or sustained displays). Inter-class correlations (ICC) were computed from independent double coding of the videotapes and were .92 and .85 for parent's positivity towards the child and parent's respect for autonomy, respectively.

Shift and Persist. Youth completed the Shift and Persist Questionnaire (SAPQ; Chen, McLean, & Miller, 2015), a 14-item measure of youth's ability to accept and adjust to stressors (i.e., reframe the meaning of the stressor), and endure adversity by developing purpose in life and focusing on hope for the future. This measure consists of a Shift scale (5 items), a Persist scale (4 items), and five distractor items. Given that the combination of shifting and persisting rather than just shifting or persisting alone is particularly important for low-SES individuals (Chen & Miller, 2012), scores from the individual Shift and Persist scales were combined (9 items; $\alpha = .68$), with higher scores indicating greater use of shift-and-persist strategies. The SAPQ has demonstrated good reliability and validity for adolescents (Chen et al., 2015).

Emotion Regulation. Emotion regulation is a multifaceted process and, as such, was assessed at the physiological and self-report levels.

RSA suppression. Youth independently participated in a task designed to induce stress in the youth based on the Trier Social Stress Task (Kirschbaum, Pirke, & Hellhammer, 1993) while their mother watched. During this task, youth were instructed to imagine that they were participating in a math competition with their teachers, classmates, and parents watching. Youth were first instructed to count down from 100 by 2. Once when youth demonstrated competency, difficulty increased (e.g., instructing the child to count down from 100 by 6). Each time the

child demonstrated competency, the task was made more difficult in order to keep the child challenged and stressed. This task lasted for 5 minutes.

Physiological data were collected using MindWare BioLab 3.0.6 software (Helm, Miller, Kahle, Troxel, & Hastings, 2018). Respiratory sinus arrhythmia (RSA) was collected in 30-second epochs, the minimum amount of time needed to reliably estimate RSA and long enough to capture the expected rate of change for this physiological response (Helm, Miller, Kahle, Troxel, & Hastings, 2018). The EKG signal was digitized to 1,000 Hz and MindWare used a peak-identification algorithm to create an interbeat interval series. RSA is one physiological measure implicated in emotion regulation. RSA is an index of vagal tone and is considered a clear marker of parasympathetic nervous system (PNS) activation (Porges, 1986). RSA reactivity reflects the change in RSA from baseline to a challenge task, thereby reflecting the removal (i.e., suppression) or increase (i.e., augmentation) of vagal influence, and is considered to reflect the ability to regulate in response to a stressor (Beauchaine, 2001). RSA suppression scores were computed as a physiological measure of emotion regulation (Graziano & Derefinko, 2013; Porges 1991). RSA suppression, or the decrease in RSA from baseline to a challenge, reflects cardiac acceleration to aid in attentional engagement to a threatening situation (Porges, 1995, 2007). As such, RSA suppression is generally considered a physiological measure of adaptive regulatory abilities (Graziano & Derefinko, 2013; Porges 1991).

Self report. Youth completed the Emotion Regulation Questionnaire (ERQ; Gross & John, 2003), a 10-item measure of youth's tendency to regulate their emotions through the use of two regulation strategies: cognitive reappraisal and expressive suppression. This study used the Cognitive Reappraisal subscale, from which one item was removed to improve scale reliability

(α = .62). The ERQ is rated on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) and has good psychometric properties (Gross & John, 2003).

Youth Psychological, Sleep, and Academic Adjustment.

Parents completed the Child Behavior Checklist, a 118-item measure rated on a 3-point Likert scale (0 *not true*, 1 *somewhat or sometimes true*, and 2 *very true or often true*), providing a measure of a youth psychological adjustment (CBCL; Achenbach & Rescorla, 1991). The CBCL yields seven syndrome scales (e.g., Sleep Problems) and two broadband scales: Internalizing Problems and Externalizing Problems. The current study used the Internalizing (α = 0.88; 36 items), Externalizing (α = 0.91; 24 items), and Sleep Problems (α = .67; 3 items) scales. Three items were removed from the Sleep Problems scale to increase reliability of the scale. The Internalizing Problems scale measures children's anxious, depressed, and withdrawn behaviors whereas the Externalizing Problems measures children's aggressive and destructive behaviors. Raw scores were used in the analyses. *T*-scores ranging from 60-63 are considered "borderline" and *T*-scores greater than 63 are considered "clinical" for the Internalizing and Externalizing Problems scales. On the Internalizing and Externalizing Problems scales 16% and 14% of the children were in the borderline or clinical ranges, respectively. The CBCL has strong psychometric properties (Achenback & Rescorla, 2000). Regarding academic adjustment, parents were asked to respond to two questions, which were summed together, indicating whether their child repeated any grades or had any academic/other problems in school.

Data Preparation

Trained research assistants cleaned and analyzed the data used MindWare HRV 3.0.25 software. Possible artifacts (e.g., participant movement or breathing, inadvertent cardiac fluctuations) were inspected and epochs in which 10% of the data points were artifacts were

removed from subsequent analyses. RSA values for each epoch were computed in MindWare using the natural logarithm of the variance heart rate period within the frequency bandpass related to respiration (i.e., 0.24-1.04Hz for children, 0.12-0.40Hz for adults; Fracasso, Porges, Lamb, & Rosenberg, 1994).

For analyses, RSA suppression values were computed for each child. First, mean RSA scores were computed separately for both the baseline (i.e., dyads were instructed to sit still and listen to a 3-minute recording of nature sounds) and child stress tasks. RSA suppression was then calculated by subtracting youth's mean RSA values during the stress task from their mean baseline RSA values, in accordance with prior studies (e.g., Calkins, et al., 2008). Positive change scores represent a decrease from baseline to the stress task, indicating RSA suppression. Greater regulation was represented by greater RSA suppression.

Statistical Analyses

Preliminary analyses were conducted using IBM Statistical Package for the Social Sciences, Version 24 (SPSS). Collected data was plotted and visually examined to show that the data met the assumptions of linearity, normality, and homogeneity of variance. Observational data for six dyads was invalid due to noncompliance with the task (e.g., sleeping, not discussing the conflicts on the cards) and physiological data was invalid for 10 dyads due to administration error or too many artifacts. Little's MCAR test determined that data was missing completely at random ($p > .05$; Little, 1998), therefore, Full Information Maximum Likelihood (FIML) estimation was used (Little & Rubin, 2002; Muthen & Muthen, 2007). FIML has been shown to yield more efficient and less biased parameter estimates than traditional methods for handling missing data (Enders & Bandalos, 2001).

Pearson bivariate correlations were conducted between the independent, dependent, and mediator variables. Multiple mediation analyses were tested using structural equation modeling (SEM) using Mplus 7.4, modeling the associations between positive and supportive parenting, shift-and-persist, ER, and youth adjustment (Jaccard, 2017; Muthén & Muthén, 2012). Child sex and race were entered as covariates but were not significant in any analyses; therefore, the results are presented without the covariates. The SEM models were estimated using maximum-likelihood estimation with robust standard errors (Preacher & Hayes, 2008). Bootstrapping (5,000 resample) was used to evaluate the direct and indirect effects (MacKinnon, Fairchild, & Fritz, 2007; Preacher & Hayes, 2008). Using standard criteria for model fit, a variety of model fit indices were evaluated, including the chi-square test of model fit ($p>.05$), the root mean square error of approximation (RMSEA; acceptable fit <.06), the comparative fit index (CFI; acceptable fit > .90), the Tucker–Lewis index (TLI; acceptable fit>.90), and the standardized root mean square residual (SRMR; acceptable fit <.05; Bollen, 1990; Hu & Bentler, 1998; Hu & Bentler, 1999).

Power

The sample size needed to detect statistically significant effects was determined post hoc using the Monte Carlo approach in Mplus (Muthen & Muthen, 2002). In order to detect a medium effect ($f^2 = .015$) with alpha of $p = .05$ and power of 0.80 with three predictors and three mediators, it was determined that the necessary total sample size to detect effects for the full proposed model is 360. Due to the lack of power for the proposed model, additional simplified, post hoc models were run in order to determine if improved power affected model fit and results.

CHAPTER 3

RESULTS

Table 1 presents means, standard deviations, and ranges for all study variables. Pearson bivariate correlations were conducted to examine relations among the independent, dependent, and moderator variables (see Table 2 for correlations). Because the four positive and supportive parenting variables did not correlate, a latent construct using all four variables could not be created. Positivity towards child and respect for child's autonomy were positively correlated; however, because a latent factor cannot be created in SEM with only two variables, a composite variable for positive parenting was created using positivity towards child and respect for child's autonomy. Because academic adjustment did not relate to any of the independent or mediator variables, it was not included in subsequent analyses. Finally, because internalizing and externalizing problems were highly correlated (i.e., r = .73), these scales were combined to create one scale for psychological problems. Thus, a total of two SEM models were run, with a separate model for each outcome variable. Each model included three predictors (i.e., the composite variable for the observational measures of supportive parenting, firm control, and acceptance), three mediators (i.e., shift and persist, RSA suppression, and cognitive reappraisal), and one outcome variable (i.e., psychological problems or sleep problems).

Model fit was not acceptable for the psychological problems model (Chi-square p = .00; RMSEA = .75; CFI = .01; TLI = -4.55; SRMR = .16; see Table 3 for direct and indirect effects) or for the sleep problems model (Chi-square p = .02; RMSEA = .75; CFI = .09; TLI = -4.48; SRMR = .15; see Table 4 for direct and indirect effects). As such, the results for these models

cannot be interpreted. However, several simplified variations of the models were run in order to attempt to improve power and fit and achieve appropriate model identification (Jaccard & Jacoby, 2010). First, simplified models were run with one predictor, all three mediators, and one outcome variable in each model. Next, models with one predictor, all three mediators, and both outcome variables were run. Additionally, models were run with all three predictors, one mediator, and one outcome, and again with both outcome variables in the model. Finally, models were simplified to the most basic level, including one predictor, one mediator, and one outcome for each model. However, model fit remained unacceptable for each of the above variations.

CHAPTER 4

DISCUSSION

Despite the risks for poor development associated with youth living in poverty, prior research has identified positive and supportive parenting as a protective factor, as it facilitates the development of adaptive and effective emotion regulation strategies (e.g., Conger & Conger, 2002; Masten & Labella, 2016). Further, shift-and-persist has been posited to be uniquely beneficial for buffering low SES individuals from negative physical health outcomes and depression (Chen & Miller, 2012; Christophe et al., 2019). The present study expanded upon the extant literature on resilience factors for youth from impoverished backgrounds by investigating the role of shift-and-persist, which has primarily only been investigated in relation to physical health outcomes, on youth psychological (i.e., internalizing and externalizing problems) and sleep adjustment. Specifically, this study examined the hypothesis that, in the context of poverty, positive and supportive parenting behaviors would have a protective effect on youth's outcomes by facilitating a shift-and-persist mindset and the development of broad emotion regulation abilities. Overall, the primary study hypotheses were not supported. However, results provide directions for future research.

The primary study hypothesis that positive parenting would facilitate adjustment in impoverished youth by facilitating a shift-and-persist-mindset and adaptive development of ER was not supported with any of the independent or mediator variables. Analyses yielded poor fit across all models. Poor model fit could be a consequence of a relatively small sample size and low power for complex mediation models; however, model fit did not improve when the models

were simplified. Further, both individual and multiple mediator models were also tested using the PROCESS SPSS macro plug-in (http://processmacro.org/index.html; Hayes, 2013), but no model yielded significant results. As such, it is likely that these variables simply do not meaningfully fit together in the proposed manner in this sample.

Given the nonsignificant mediation results, shift-and-persist and emotion regulation may function as moderators rather than mediators. Prior research has clearly demonstrated that positive parenting is related to better outcomes for children across contexts (e.g., Kim-Cohen et al., 2004; Labella et al., 2019; Masten & Labella, 2016). Rather than acting as a mechanism that explains these relations, shift-and-persist and emotion regulation may instead influence the existing relation by affecting its strength. Therefore, these variables were also examined as moderators using the PROCESS SPSS macro plug-in. However, these models did not produce significant results, further suggesting that the relations among these variables are not particularly meaningful in this sample.

Though the full mediation models and exploratory moderation models were not supported, several relations at the bivariate level were consistent with the extant literature. In particular, maternal positivity towards child was negatively related to youth externalizing and sleep problems. No other parenting variables significantly related to the outcome variables. These results suggest that maternal positivity, relative to monitoring or encouragement of autonomy, is particularly meaningful in an impoverished sample. Prior research has demonstrated that impoverished parents typically display less positive and more negative emotion, less affection, less support, and more harsh disciplinary strategies than more economically advantaged parents (Brophy-Herb, Stansbury, Bocknek, & Horodynski, 2012; Shaffer, Suveg, Thomassin, & Bradbury, 2012). Youth living in poverty often encounter a

number of largely uncontrollable adversities outside of the home (e.g., exposure to violence, discrimination from teachers or peers) which, in turn, further threaten adaptive development (Benner et al., 2018; Evans, Li, & Wipple, 2013; Leventhal & Brooks-Gunn, 2000; Repetti, Taylor, & Seeman, 2002). Although parents living in these settings may use more harsh disciplinary strategies in an effort to protect their children (Deater-Deckard, Ivy, & Petrill, 2006; Mason, Cauce, Gonzales, & Hiraga, 1996), youth who experience additional stressors outside of the home and return to a parent who is cold and harsh are put at an even greater disadvantage for poor outcomes (Chung & Steinberg, 2006; Tolan, Gorman-Smith, & Henry, 2003). The present study, however, provides evidence that mothers can buffer youth from poor outcomes by providing a warm and positive environment for their children in the midst of a broader context that is largely characterized by harshness or rejection (e.g., Odgers et al., 2012; Vanderbilt-Adriance & Shaw, 2008).

It is evident that maternal positivity and warmth is particularly important in the context of poverty; however, these results were not found across methods of assessment. Specifically, significant results were only found for the observational measure, but not for the youth report measure. Prior research suggests that the method of assessment of parenting may reflect the reliability of the data collected (Bornstein et al., 2015; DeGarmo, Reid, & Knutson 2006; Schwarz, 1999). Although there are certainly advantages to data obtained via questionnaires (e.g., gathering of information across contexts and over time), biases such as social desirability, current mood, motivation, memory-related factors, or individual characteristics may compromise the accuracy of the report (Power et al., 2013; Rabinowitz & Drabick, 2017). For example, when completing the questionnaire, youth may have recalled specific recent interactions rather than considering the relationship as a whole. Although observational data has its own set of

drawbacks, observational measurement is less prone to these particular biases and, therefore, may provide more objective and accurate measure of parenting behavior (Bornstein et al., 2015).

A second study hypothesis proposed that shift-and-persist would protect youth from poor outcomes. Although shift-and-persist and youth outcomes were not correlated significantly, the pattern of findings was in the negative direction, as expected, for externalizing, sleep, and academic problems. Some possible explanations for a lack of significant relations exist. First, shift-and-persist strategies require higher-level cognitive abilities that develop later in childhood; therefore, the development of shift-and-persist strategies is likely to occur in adolescence (Chen et al., 2013; Nurmi, 1991). Youth in the current study, who are in early adolescence, may have only just begun to develop and acquire such complex cognitive abilities. Although the SAPQ demonstrated good variability in this sample, it is possible that youth were attempting to use these skills but doing so ineffectively given their level of development. As youth continue to develop cognitively, they may be more adept at using such complex coping strategies. Consequently, the protective effects of shift-and-persist may not be evident until later adolescence. Relatedly, the SAPQ showed a relatively low reliability in this sample, suggesting that youth may not have understood the items on the measure. As youth develop more complex cognitive strategies, not only are they able to better understand these complex processes, but they are also likely to be more effective at using these skills.

While youth's cognitive development may play a role in the lack of findings, another explanation relates to youth's perceptions of economic hardship and related distress. Prior research on shift-and-persist has emphasized the use of subjective, rather than objective, measures of hardship. For example, Lam and colleagues (2018) investigated whether perceived family social status would moderate the link between shift-and-persist and youth's asthma

symptoms. They found that shift-and-persist was associated with better asthma profiles only in youth from families with lower parent-reported perceived social status, suggesting that the effectiveness of shift-and-persist is dependent upon the perception of the stressor. In the present study, economic hardship was identified as an implied stressor, but the level of subjective distress was not measured. Socioeconomic status is a multidimensional construct including both objective characteristics (e.g., income) and subjective perceptions (e.g., perceptions of one's social status relative to others; Kraus, Piff, & Keltner, 2011). Prior research has suggested that subjective indicators of SES are more consistently and strongly related to psychological functioning and physical health outcomes than objective indicators (Adler, Epel, Castellazzo, & Ickovics, 2000). Although youth in the present study were objectively economically disadvantaged, they may not have perceived their socioeconomic status as a hardship. Additionally, youth are likely exposed to peers in similar financial circumstances (e.g., at school, in their neighborhood) and, consequently, may view their circumstances as the norm. Therefore, shift-and-persist may not be an appropriate or effective coping strategy for youth who do not perceive economic disadvantage as a hardship. Thus, subjective indicators of poverty-related stress and awareness are likely particularly important with youth.

Although shift-and-persist was not significantly related to any of the outcome variables, this construct was positively related to key parenting variables (i.e., maternal positivity towards child and maternal acceptance). The conceptual model of shift-and-persist theorizes that a role model (e.g., a parent) facilitates the development of this strategy in youth by modeling emotion regulation and meaning in life (Chen & Miller, 2012; Chen et al., 2013). The present results suggest that mothers' demonstration of positive regard, warmth, and acceptance towards their children in the midst of uncontrollable stressors may contribute to a shift-and-persist mindset in

their children. Further, warmth and acceptance appear to be more important for the development of youth shift-and-persist than parenting behaviors that enforce compliance with rules. Mothers who are able to display positivity and warmth towards their children in the midst of adversity may generally demonstrate more adaptive emotion regulation than mothers who are more cold and harsh towards their children. Mothers who exhibit warmth and acceptance towards their children, rather than emphasize behavioral control, may be more likely to support their children in finding meaning and maintaining hope for the future, thus facilitating the development of this mindset in their children.

In sum, several theoretical models have identified parenting behaviors as critical to youth development across diverse groups and settings, and particularly so for children's adaptation and resilience in the context of adversity (Conger & Donnellan, 2007; Simons et al., 2016). The present study provides further evidence of the importance of maternal positivity towards their children in the context of poverty and provides direction for future research; however, limitations are noted. First, the design was cross-sectional, thereby only allowing for correlational rather than causational conclusions to be drawn. Given that parent-child relations are reciprocal (Morris, Silk, Steinberg, Myers, & Robinson, 2007) and shift-and-persist is theorized to develop over time through modeling (Chen & Miller, 2012; Chen et al., 2013), future research would benefit from examining these relations longitudinally to investigate how different parenting behaviors contribute to the development of shift-and-persist and, in turn, how the shift-and-persist mindset can protect against poor outcomes. Additionally, this study focuses on the relations between maternal parenting behaviors and child adjustment. Given evidence that fathers uniquely contribute to the development of children's emotional functioning, future research should also include fathers (Shewark & Blandon, 2015; Thomassin & Suveg, 2014;

Zeman, Perry-Parish, & Cassano, 2010). Finally, as previously noted, the sample size is relatively small and future research would be bolstered by greater power with a larger sample, particularly for complex statistical models.

Despite these limitations, this study contributes to the extant literature and provides directions for future research. Specifically, this study documents the particular importance of maternal positivity for youth's adaptive development in the context of poverty. Although maternal positivity is often lacking in impoverished populations, prior work suggests that initial deficits in parenting behaviors can be improved (Leijten et al., 2017). Thus, future research should focus on bolstering existing behavioral interventions. Rather than primarily emphasizing behavior management and parenting skills such as supervision and monitoring as the main components, interventions may be more effective by including the parent-child relationship as an equally important component (e.g., focusing on facilitating warm and supportive parent-child relationships), particularly for impoverished families. Additionally, although shift-and-persist did not significantly relate to the outcome variables, it is possible that relations would be evident with the inclusion of a measure of perceived social status and distress given prior evidence of the importance of subjective, rather than objective, indictors (Christophe et al., 2019; Lam et al., 2018). Taken together, the present results highlight the importance of maternal positivity and warmth for youth's outcomes in the context of poverty and provide future directions for research investigating the role of shift-and-persist on impoverished youth's development.

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APPENDIX A

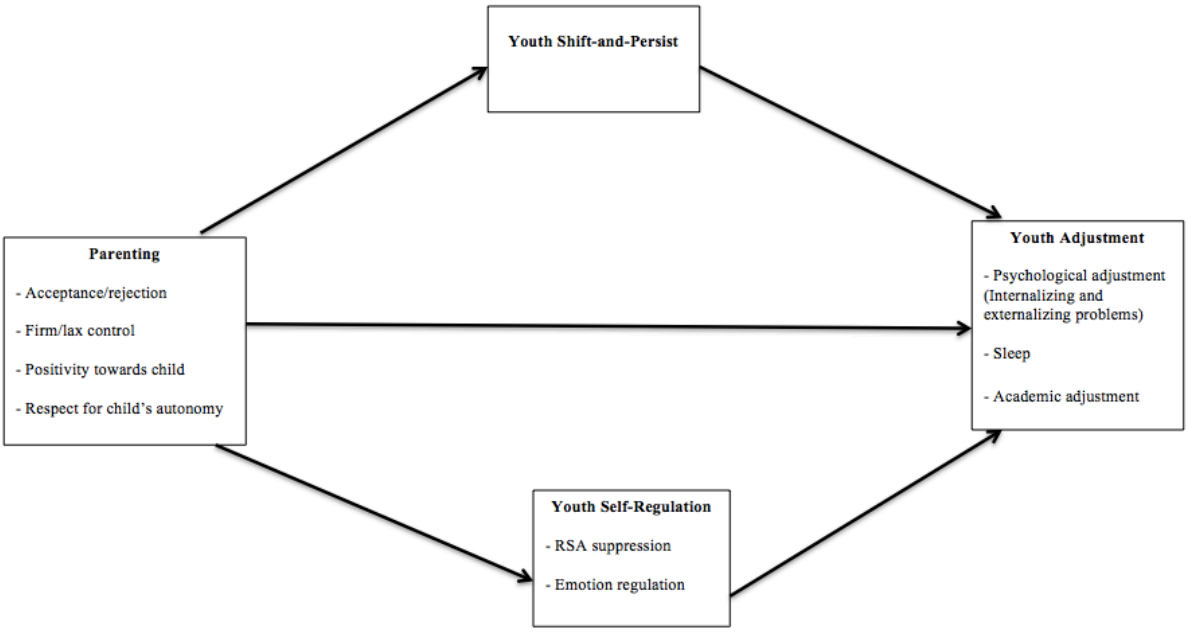

Figure 1. The proposed model that positive and supportive parenting facilitates youth adjustment through youth shift-and-persist and emotion regulation.

APPENDIX B

Table 1

Descriptive Statistics for Main Study Variables

Variable	M (SD)	Range
Respect for autonomy	4.43 (1.25)	2 to 7
Positivity towards child	5.18 (1.52)	2 to 7
Firm control	-.65 (2.91)	-9 to 5
Acceptance	27.42 (3.04)	17 to 30
RSA suppression	.02 (.66)	-1.72 to 1.83
Cognitive Reappraisal	31.27 (6.65)	15 to 42
Shift and persist	28.89 (4.90)	12 to 36
Internalizing problems	5.76 (5.99)	0 to 24
Externalizing problems	5.07 (6.49)	0 to 33
Sleep problems	4.40 (1.03)	2 to 10
Academic problems	2.36 (.56)	2 to 4

APPENDIX C

Table 2

Intercorrelations for Main Study Variables

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Respect for autonomy	-	.63**	-.13	-.04	.14	.11	.08	.06	-.12	-.15	.05
2. Positivity towards child		-	-.20*	.08	.16	.05	.23*	-.10	-.24*	-.27**	.07
3. Firm control			-	-.11	-.02	.16	-.15	-.01	-.02	-.03	.01
4. Acceptance				-	.13	.20	.20*	-.06	-.19	-.11	.07
5. RSA suppression					-	.09	.09	.10	-.18	-.20	-.08
6. Cognitive Reappraisal						-	.30**	.05	-.05	.08	-.08
7. Shift and persist							-	.11	-.04	-.06	-.02
8. Internalizing problems								-	.73**	.47**	.25*
9. Externalizing problems									-	.34**	.39**
10. Sleep problems										-	.07
11. Academic problems											-

APPENDIX D

Table 3

Standardized Path Estimates of Direct and Indirect Effects Predicting Psychological Problems

Direct Effects	**Estimate**	**SE**	***p***	**95% CI**
Positive Parenting	-.11	.09	.20	[-.25, .03]
Firm Control	-.09	.10	.37	[-.24, .08]
Acceptance	-.15	.11	.16	[-.33, .02]
Indirect Effects	**Estimate**	**SE**	***p***	**95% CI**
Positive Parenting				
via RSA Suppression	-.01	.02	.51	[-.07, .003]
via Cognitive Reappraisal	.06	.05	.26	[-.01, .16]
via Shift and Persist	-.06	.05	.30	[-.18, .01]
Firm Control				
via RSA Suppression	.00	.01	.97	[-.02, .03]
via Cognitive Reappraisal	-.04	.05	.43	[-.15, .02]
via Shift and Persist	.06	.06	.28	[-.01, .18]
Acceptance				
via RSA Suppression	-.01	.02	.52	[-.06, .003]
via Cognitive Reappraisal	.07	.06	.22	[.000, .19]
via Shift and Persist	-.03	.04	.48	[-.12, .01]

APPENDIX E

Table 4

Standardized Path Estimates of Direct and Indirect Effects Predicting Sleep Problems

Direct Effects	**Estimate**	**SE**	***p***	**95% CI**
Positive Parenting	-.20	.09	.03	[-.35, -.07]
Firm Control	-.11	.09	.23	[-.26, .03]
Acceptance	-.11	.08	.27	[-.24, .03]
Indirect Effects	**Estimate**	**SE**	***p***	**95% CI**
Positive Parenting				
via RSA Suppression	-.02	.03	.49	[-.09, .003]
via Cognitive Reappraisal	.03	.04	.43	[-.01, .13]
via Shift and Persist	-.04	.05	.36	[-.15, .01]
Firm Control				
via RSA Suppression	.00	.02	.98	[-.02, .03]
via Cognitive Reappraisal	-.02	.43	.57	[-.12, .01]
via Shift and Persist	.05	.05	.37	[-.01, .17]
Acceptance				
via RSA Suppression	-.02	.02	.45	[-.07, .003]
via Cognitive Reappraisal	.04	.05	.41	[.01, .15]
via Shift and Persist	-.02	.03	.54	[-.11, .01]