POLITICAL CLIMATE STRESS AND POSITIVE BEHAVIORAL SYNCHRONY IN BLACK AND LATINX MOTHER-CHILD DYADS

by

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(Under the Direction of Cynthia M. Suveg)

ABSTRACT

Contextual stress undermines the parent-child relationship, but culture-specific stressors that primarily impact families of color have been previously neglected in this research. Rooted in the Family Stress Model for minority families, the present study examines mother and child self-regulation as a moderator of the association between political climate stress (PCS) and positive behavioral synchrony (PBS) in 100 mothers and their Latinx or Black children. Mother and child self-regulation was investigated both physiologically with respiratory sinus arrhythmia (RSA) data and via self-report. Analyses revealed child physiological self-regulation moderated the association between PCS and PBS. There was no relation between PCS and PBS at high levels of physiological self-regulation. The relation between PCS and PBS was the strongest at low levels of child physiological self-regulation. Findings highlight the role children play in combatting negative impacts of a novel salient stressor on the parent-child relationship.

INDEX WORDS: Black; Latinx; stress; parenting; mothers; self-regulation; emotion-regulation; political climate stress

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BS, University of Georgia, 2020

A Thesis Defense Submitted to the Graduate Faculty of The University of Georgia in Partial Fulfillment of the Requirements for the Degree

MASTER OF SCIENCE

ATHENS, GEORGIA

2022

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December 2022

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CHAPTER 1

INTRODUCTION

The parent-child relationship serves as a catalyst for self-regulatory functions that have crucial implications for child development (Feldman, 2007a; Feldman, 2007b). Attunement within this relationship has important developmental implications, and is operationalized in the literature by behavioral and emotional synchrony in dyadic interactions (Feldman 2007a; Feldman, 2007b; Davis et al., 2017b). Positive behavioral synchrony (PBS) refers to parent-child interactions consisting of mutual cooperation, reciprocity, and harmony (Harrist & Waugh, 2002). The association between PBS and children's adaptive self-regulation is well established, with effect sizes ranging from small to large in preschool aged samples (Kochanska et al., 2008; Laible & Thompson, 2000; Suveg et al., 2016, Davis et al., 2017b). This is important given that child self-regulation—a multi-level construct encapsulating the flexible management of emotions, cognitions, and behaviors in response to environmental demands (Bandura, 1991; Karoly, 1993) —is crucial to many indices of psychosocial adjustment (e.g., academic functioning, social competence, and psychopathology; Bradley et al., 2011; Eisenberg et al., 2000; Graziano et al., 2007; Calkins, 2007).

Research has also established that contextual stress can undermine both the parent-child relationship as well as child self-regulation (Shaffer et al., 2018; Kia-Keating et al., 2018). This work has focused on general stressors (e.g., poverty) and culture-specific stressors (e.g., racial discrimination, acculturative stress), but a need remains to investigate culture-specific stressors that might be most experienced by families of color. The present study directly addresses this

gap and investigates how political climate stress (PCS), a contextual stressor focusing on the impacts of racially-charged actions and news on parents of color (Roche, 2018), may undermine the parent-child relationship. Buffers of this relation, which can be targeted in intervention programs, are also examined. The sample is comprised of Latina and Black mothers, who despite belonging to two of the fastest growing subsets of the US population are underrepresented in psychological research (Hill et al., 2019; Roche et al., 2018; Williams, 2020). This study investigates a novel salient contextual stressor, PCS, that is disproportionately impacting the well-being of Latinx and Black populations in the United States (Roche et al., 2018; Bernstein et al., 2019; Hurd et al., 2014). The present study aims to inform intervention strategies for ethnic-minority families challenged by contextual stress.

Positive Behavioral Synchrony and Contextual Stress

Often observed in the parent-child relationship, PBS has been described as a process of co-regulation where both members of the dyad contribute to the interaction (Feldman, 2003; Feldman, 2007b). Reciprocity is considered the cornerstone of adaptive social life (Feldman, 2015; Hauser, et al., 2009) and is observable early on in the parent-child relationship. Parent–infant synchrony at three months is shown to predict children's cognitive and social-emotional competencies across early childhood (Feldman & Eidelman, 2009). Additionally, this early impact of synchrony holds throughout adolescence and later development (Kochanska et al., 2008). Research has demonstrated there is likely a transfer of skills learned within a synchronous parent-child relationship to other relationships throughout life (Feldman, 2015), highlighting the importance of PBS in the development of children’s regulatory and social skills.

Research clearly demonstrates the importance of PBS in the context of the parent-child relationship; however, a plethora of work has shown how contextual stress can interfere with

parenting and this relationship more broadly (Östberg & Hagekull, 2000; Smith, 2010; Abidin, 1992; Belsky, 1984; Rodgers, 1993). Harsh and controlling parenting behaviors have been observed in mothers experiencing high levels of stress (Smith, 2010; Crnic et al., 2005; Crnic et al., 1983; Goldstein et al., 1996; Rodgers, 1993). The Family Stress Model (FSM) posits that stressors can put caregivers at risk for psychological distress, which in turn can influence intrafamilial relational problems and poor parenting practices (Emmen et al., 2013). Through these processes, children may be hindered by parent contextual stress despite not actively experiencing the stress themselves.

Although the FSM historically focused on economic stressors and financial hardships in majority groups, the model has been extended to other contextual stressors in both majority and minority samples (Masarik & Conger, 2017; Emmen et al., 2013). Support for the extension of this model has been coined the minority family stress model (Emmen et al., 2013). Although studies extending the FSM to ethnic minority-specific stressors (e.g., acculturation stress) have warranted support (Miller & Csizmaida, 2022), the complexity of impacts of ethnic minority specific stressors is not fully understood. For example, with Latina and Black mothers, contextual stressors directly related to ethnic minority status, such as acculturation stress, have been linked to lack of positive parental involvement (Martinez, 2006; Leidy, 2010). Other work, however, found that parents of children facing racism and discrimination may actually implement more supportive parenting practices (e.g., fostering ethnic pride, comforting and encouraging their child) to combat the negative effects of discrimination (Ayón, 2016). Given mixed findings surrounding how ethnic minority specific stressors influence parenting practices, further work investigating how these contextual stressors may impact the parent-child relationship is crucial.

Political climate stress (PCS), a term used to capture stress related to racially and ethnically-charged actions and policies against immigrants and people of color, is a particularly salient stressor for Latinx and Black individuals (MacLeod et al., 2020; Roche et al., 2018; McCarthy & Saks, 2019). PCS gained traction following a national survey released by the American Psychological Association in 2017 that suggested political climate related stress was on the rise (McCarthy & Saks, 2019). Research thus far has found that political climate stress undermines well-being in ethnic minorities and associations between political climate stress and anxiety symptoms have been documented (Roche et al., 2018; Bernstein et al., 2019; Hurd et al., 2014). Given the profound effects of PCS on parent well-being, it could be that PCS undermines the parent-child relationship as well.

Buffers of Contextual Stress

Given the negative impacts of PCS, it is crucial to identify buffers that can minimize these negative effects. Self-regulation is a multifaceted variable consisting of behavioral and emotional flexibility in response to environmental demands (Bandura, 1991; Karoly, 1993). Self-regulation describes the ability to modify behaviors by controlling instinctive responses and implementing appropriate alternatives in response to environmental demands and individual goals (Rothbart & Rueda, 2005; Davis et al., 2017b). Overall, self-regulation has been shown to underlie healthy functioning across the lifespan (Moffitt et al., 2010; Davis et al., 2017b).

Physiologically, self-regulation can be assessed using respiratory sinus arrhythmia (RSA), which reflects the normal variation in heart rate that takes place during a respiration cycle (Porges et al., 1994). Polyvagal Theory (Porges, 2007) posits that RSA when an individual is at rest is an indicator of preparedness to engage with social environments and respond to environmental demands, with higher levels of resting RSA indicating higher levels of self-

regulation (Porges & Buczynski, 2017). RSA suppression, on the other hand, reflects a decrease in RSA and a corresponding reallocation of resources to cope with the task at hand (Porges, 2007). RSA suppression can be thought of as a physiological indicator of self-regulation in contrast to resting RSA, which reflects one's readiness to respond. In general, greater suppression in response to stress is typically associated with positive outcomes (West et al., 2020; Graziano & Derefinko, 2013). Although greater suppression is typically viewed as adaptive, in the presence of parent and child psychopathology, mothers and children may become hyper-reactive to stressors leading to maladaptive regulation and stress responses (Hinnant & El-Sheikh, 2013; Rottenberg, 2007; West et al., 2020). In such cases, higher levels of physiological suppression are typically viewed as maladaptive. Despite this, the majority of research supports RSA suppression as an adaptive facet of self-regulation.

A growing body of work supports the idea that mother self-regulation facilitates individual well-being, greater psychological adjustment, and healthy parenting specifically (Inzlicht et al., 2021; Dix, 1991; Crandall et al., 2015; Shaffer et al, 2018). Mothers with maladaptive self-regulation display less optimal parenting practices, whereas well-regulated mothers engage in healthy parenting practices (Kia-Keating et al., 2018; Lengua et al., 2021; Shaffer et al., 2018). Using a sample of Black mothers from low socioeconomic backgrounds, Shaffer et al. (2018) found that mothers who were well-regulated across physiological, emotional, and behavioral indices engaged in more positive parenting practices (e.g., limit setting, increased dyadic collaboration, maternal encouragement of child self-regulation) than dysregulated mothers. This study demonstrated maternal self-regulation acts as a buffer against contextual stress. Collectively, individual mother self-regulation is critical for optimal parenting, and in turn, a healthy parent-child relationship.

Similarly, child self-regulation can be protective in the context of parent contextual stress. Genetic, physiological, and behavioral buffers of the link between maternal parenting stress and child adjustment have been investigated in a racially and economically diverse sample of mothers and their pre-school aged children (Davis et al., 2017a). Children's physiological self-regulation moderated associations between parenting stress and maladaptive outcomes (e.g., internalizing pathology, sleep problems), illustrating that children who were able to self-regulate were better equipped to combat implications of parenting stress (Davis et al., 2017a). Findings highlighted the role children's self-regulation plays in buffering negative effects. Taken together, previous work demonstrates the importance of both parent and child self-regulation in the context of parent contextual stress and parenting practices.

Emotion regulation is a specific subdomain of self-regulation and reflects one's ability to monitor, evaluate, and modify one's emotional reactions (Thompson, 1994; Davis et al., 2017b). A plethora of data shows that effective ER facilitates individual parent coping, which may have beneficial effects for parenting (Shaffer et al. 2018; Morelen et al., 2016). Of particular relevance to the present study, emotion regulation has been shown to help Black Americans cope with stress related to racism and discrimination (Graham et al., 2015; Shaffer et al., 2018). In the present study, parent emotion regulation will be investigated via cognitive reappraisal, a construct highlighting an individual's ability and tendency to reframe and effectively respond to emotional stimuli to achieve emotional goals (Gross & John, 2003; McRae et al., 2012). This construct was selected based on a body of work in adult samples demonstrating cognitive reappraisal as a buffer against negative outcomes in the context of stress (Pakenham, 2005; Troy et al., 2010; Troy & Mauss, 2011) and previous findings documenting the link between cognitive

reappraisal and better psychological functioning in the face of discrimination stress in an ethnic minority sample (Soto et al., 2012).

Similarly, emotion regulation has been shown to be a protective factor in the face of stress for children (Troy & Mauss, 2011). Emotion regulation aids in the development of social competence and peer relationships in preschool- and elementary-aged children, therefore fostering children's ability to cope with stressors within interpersonal contexts (Eisenberg et al., 1993; Eisenberg et al., 1997). Additionally, emotion regulation in early childhood fosters language skills, emotional competency, school readiness, and academic successes (Graziano et al., 2007; Harrington et al., 2020; Eisenberg et al., 2005), all of which may be protective in the context of stress. Given the importance of emotion regulation in regard to adaptive development, this facet is crucial to investigate in the context of stress and the parent-child relationship.

The Current Study

Rooted in the Family Stress Model for minority families, the present study examines relations between PCS and PBS and mother and child self-regulation as moderators of this association in a sample of mothers and their Latinx and Black children. It is hypothesized that PCS will be negatively related to PBS. It is expected that mother and child physiological-and emotion-regulation will moderate the association between PCS and PBS. At high levels of mother and child physiological regulation, it is expected that the relation between PCS and PBS will be the weakest. At low levels of mother and child physiological regulation, it is expected that the relation between PCS and PBS will be strongest. In the context of high levels of mother emotion regulation or low levels of child emotion dysregulation, the relation between PCS and PBS is expected to be weakest. In the context of low levels of mother emotion regulation or high child emotion dysregulation, the relation between PCS and PBS is expected to be strongest. The

present study builds on the family stress literature by connecting previous findings to an underrepresented sample and novel salient stressor.

CHAPTER 2

METHOD

Participants

Participants included 100 mothers (M_{age} = 34.48, *SD* = 6.39) and their children (M_{age} = 6.73, *SD* =1.76, 51.0% female). Inclusion criteria required that mothers and children were fluent in English and/or Spanish, children were between ages five and nine, and parents denied concern for developmental disability. Children were required to identify as Black or Latinx to participate, but parents could be any race or ethnicity. Nearly 74% of parents identified as Latinx while the remaining 26% identified as being of non-Hispanic or Latinx ancestry. In regard to race, 24.7% of the sample identified as Black and 22.7% identified as White/European American. The remaining participants identified as Native American, biracial, or other. Sixty-eight percent of mothers were born outside the United States, with birthplaces including Mexico, Honduras, Guatemala, El Salvador, Venezuela and Columbia. The majority of mothers reported they were employed (54.0%). Mothers reported a wide range of yearly income, from less than $5,000 up to $90,000, with the majority of the sample earning below $30,000 annually (56.4%). Most mothers reported their highest completed education was high school/GED (45.0%), some reported they did not complete high school (13.0%), and four mothers (4.0%) reported completing a Master's degree. Eighty-two percent of the sample reported having a romantic partner.

Procedures

All study procedures were in accordance with and approved by the University's institutional review board (IRB). The research team recruited participants from the local

community using flyer postings and social media initiatives, though approximately 70% of participants came from client referrals. Potential participants were screened over the phone for eligibility and if they met criteria, were scheduled for an in-person assessment that took approximately 1.5 hours to complete. Written consent from caregivers and assent from children was obtained upon arrival. Once electrodes were placed, dyads were instructed to watch a five-minute video of a calming nature spring while resting respiratory sinus arrhythmia (RSA) levels were collected continuously. Physiological data was collected with Mindware BioLab software (Version 3.0.6). Following baseline data collection, the dyad engaged in a 10-minute developmentally stressful task where they were told to recreate a Lego figure based on a provided image. The caregiver could offer verbal assistance to their child, but was instructed not to touch the Legos. Following physiological data collection, parents completed questionnaires in the presence of a research assistant who helped as needed. Participants were compensated $100 for their participation and an additional $40 for every family they referred who completed all study procedures.

Physiological data was cleaned by trained undergraduate research assistants using Mindware Heart Rate Variability (HRV) Software (Version 3.0.25). To detect artifacts and data abnormalities (e.g., severe fluctuations, inadvertent cardiac fluctuations, ectopic beats due to participants' physical movement or breathing), an algorithm within the MindWare software was used (Berntson et al., 1990). Trained research assistants also visually scanned data prior to the manual alteration of data points. Research assistants were taught to insert mid-beats and peaks as necessary to correct erroneous data. Data were kept for analysis only if they were altered less than 10% from their original state.

Behavioral observations were coded by trained undergraduate research assistants fluent in both English and Spanish. Research assistants were trained by the principal investigator (PI) of the lab and a selected master coder fluent in both English and Spanish. Following training, undergraduate research assistants had to pass multiple reliability checks demonstrating mastery in order to code independently. Throughout the coding process, the master coder randomly checked 25% of the data to ensure reliability (*ICC* = .96, $p < .001$).

Measures

Positive Behavioral Synchrony

Positive behavioral synchrony (PBS) was captured by coding interactions for parent-child affective mutuality and felt security. Child affective mutuality and felt security codes rated availability and mutuality of emotions between the dyad and comfort and warmth within the parent-child relationship. Verbal and non-verbal communication, including communication flow and reciprocity of interactions, were assessed. Positive behavioral synchrony was coded on a 7-point Likert scale where lower scores indicated disengagement, tension, conflict, or disconnectedness, and higher scores reflected the presence of parent-child shared emotional experiences, warmth, appreciation, and connectedness.

Political Climate Stress

Parents reported on political climate stress using the Political Climate Scale (PCS; Roche, 2018). The 15-item questionnaire asked participants whether they have worried or changed their behavior in response to actions and news against people of color. Items are answered based on a 5-point Likert-type scale with response options ranging from "*almost never/never*" to "*almost always/always*." Example items included "How often do you worry that members of your family may get separated because of police actions?" and "How often have these things [changes in

policies and news stories] made it harder for you to hold a job?" An average score was computed based on participants' responses ($\alpha = .92$), with higher scores reflecting more political climate stress.

Physiological Regulation - Mother and Child RSA Suppression

Physiological data were collected utilizing Mindware Biolab Software (Version 3.0.6) for mother-child dyads during a resting and lego task. Disposable electrocardiogram (ECG) electrodes were placed on the mother and child on the right collarbone (i.e., the right clavicle area), in the cleft of the throat (i.e., below the Adam's apple), at the base of the rib areas on the left and the right sides of the body, near the xiphoid process (i.e., lower end of the sternum), midway down the back, and below the base of the skull upon the back. The EKG signal was digitized to 1,000 Hz and MindWare used a peak-identification algorithm to create an interbeat interval (IBI; the time between heartbeats) series, also known as an R-R interval.

Following cleaning procedures, research assistants exported RSA values that were computed in MindWare using the natural logarithm of the variance heart rate period within the frequency bandpass related to respiration (0.24–1.04 Hz for children and 0.12–0.40 Hz for adults; Fracasso et al., 1994). From exported values an RSA average across the ten baseline epochs and the first ten Lego epochs was calculated. RSA suppression was then calculated by taking the difference of these values. Consistent with previous research, only the first ten epochs of the Lego task were used for analyses given that children habituate after this time (West et al., 2020).

Mother Emotion Regulation

To assess mothers' emotion regulation, the Cognitive Reappraisal subscale from the Emotion Regulation Questionnaire was used (ERQ; Gross & John, 2003). The Cognitive

Reappraisal scale contains 6 items designed to measure respondents' ability and tendency to reframe and effectively respond to emotional stimuli. Mothers answered based on a 7-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Example items include "When I'm faced with a stressful situation, I make myself think about it in a way that helps me stay calm" and "When I want to feel less negative emotion, (such as sadness or anger), I change what I'm thinking about." A total score was computed based on a sum of participants' responses ($\alpha = .80$), with higher scores reflecting higher levels of cognitive reappraisal.

Child Emotion Regulation

The Emotion Regulation Checklist is a 24-item scale designed to assess parents' report of their child's ability to regulate emotions (ERC; Shields & Chicchetti, 1997). For the purposes of this study, we planned to use the adaptive emotion regulation subscale, which assesses emotional expression, empathy, and emotional self-awareness; however, reliability was unacceptable ($\alpha = .46$). Therefore, we used the Lability/Negativity subscale, which contains 16 items designed to measure inflexibility, anger dysregulation, and lability. Mothers answered based on a 4-point Likert-type scale ranging from 1 (*never*) to 4 (*always*). Example items include "Is easily frustrated" and "Responds negatively to neutral or friendly overtures by peers (for example, may speak in an angry tone of voice or respond *fearfully*." A total score was computed based on a sum of participants' responses ($\alpha = .73$), with higher scores reflecting more Lability/Negativity.

Analytic Plan

Data were analyzed with IBM SPSS Statistics software (Version 26.0.0.1). Means and standard deviations were computed for all study variables. Correlations were conducted to investigate associations among the study variables and hypothesis one regarding the relation between PCS and PBS. All variables were graphed to further investigate variables and their

distribution. Additional analyses included four moderation models using PROCESS (Hayes, 2013) to examine whether relations between political climate stress and parent-child behavioral synchrony were moderated by mother and child RSA suppression and mother self-report of their and their child's emotion regulation. Income and child gender were included as covariates in all models given previous work noting differences in parenting practices relating to child gender and SES (Russel et al., 1998; Kim et al., 2008). To establish significant interactions, models required a significant p-value within the model summary. Additionally, there needed to be a significant p-value for the interaction term and a confidence interval not containing the value zero as both indicate significance. If interactions were significant, simple slope analyses were used to probe the differing levels at which effects were observed. We further examined the pattern of effects by adding or subtracting one standard deviation from the mean. In line with previous work, we conceptualized results of simple slope analyses as indicating low, medium, and high levels of observed effects (Hayes, 2013). Power analyses were conducted using G-Power 3.1 for a multiple linear regression as a proxy for moderation analyses (Faul, 2009). Power analyses revealed that considering a Type 1 error rate of .05 (two-tailed) and Cohen's d of .2 (small effect size; Cohen, 1988), a sample size of 59 was required for power of .80.

CHAPTER 3

RESULTS

Descriptive Statistics

Table 1 presents means, standard deviations, and correlations for demographic factors and study variables. There was a significant negative association between income and political climate stress, r = -.28, p = .007. Additionally, income and child RSA suppression were significantly negatively correlated, r = -.32, p = .01. PCS was also significantly negatively related to positive behavioral synchrony, r = -.25, p = .02. Lastly, child RSA suppression was significantly positively associated with mother self-report of emotion regulation, r = .25, p = .03.

Moderation Analyses

Model 1 – PCS and PBS Moderated by Child RSA Suppression

The overall model was significant, R^2 = .16, $F(3, 58) = 3.78$, p = .02, and child RSA suppression significantly moderated the association between political climate stress and positive behavioral synchrony, b = -.78, SE(b) = 0.32, $t(61) = -2.43$, p = .02, 95% CI [-1.42, -0.14]. Simple slope analyses revealed that higher PCS was significantly associated with lower PBS for mothers of children with lower levels of RSA suppression (b = -1.03, $t(61) = -3.35$, p = .001, 95% CI [-1.64, -0.41]). There was no relation between PCS and PBS at high levels of child suppression (b = 0.06, $t(61) = 0.18$, p = .86, 95% CI [-0.58, 0.70]). Neither income (b = 0.06, $t(59) = .91$, p = .36, 95% CI [-0.07, 0.20]) nor child gender (b = -0.13, $t(59) = -.32$, p = .74, 95% CI [-0.99, 0.71]) were significant covariates in the model; values reported above exclude them. See Figure 1.

Model 2 – PCS and PBS Moderated by Mother RSA Suppression

The overall model was not significant, $R^2 = .08$, $F(3, 61) = 1.69$, $p = .18$.

Model 3 – PCS and PBS Moderated by Child Emotion Dysregulation

The overall model was significant, $R^2 = .10$, $F(3, 81) = 2.88$, $p = .04$; however, child emotion regulation did not significantly moderate the association between political climate stress and positive behavioral synchrony, $b = .69$, SE(b) = 0.40, $t(84) = 1.74$, $p = .09$, 95% CI [-0.10, 1.48]. Neither income ($b = -0.07$, $t(81) = -.20$, $p = .84$, 95% CI [-0.05, 0.17]) nor child gender ($b = -0.07$, $t(81) = -.20$, $p = .84$, 95% CI [-0.77, 0.63]) were significant covariates in the model.

Model 4 – PCS and PBS Moderated by Mother Emotion Regulation

The overall model was significant, $R^2 = .11$, $F(3, 80) = 3.78$, $p = .03$, but mother emotion regulation did not significantly moderate the association between political climate stress and positive behavioral synchrony, $b = -.06$, SE(b) = 0.03, $t(83) = -1.81$, $p = .07$, 95% CI [-0.13, 0.01]. Neither income ($b = 0.05$, $t(80) = .92$, $p = .36$, 95% CI [-0.06, 0.17]) nor child gender ($b = -0.14$, $t(80) = -.40$, $p = .70$, 95% CI [-0.84, 0.56] served as significant covariates in the model. See Table 2 for details of all moderation analyses.

CHAPTER 4

DISCUSSION

Contextual stress undermines synchronous interactions within the parent-child relationship, but culture-specific stressors that impact families of color have been previously neglected in this research. In a sample of mothers and children of color, this study examined the relation between political climate stress (PCS) and positive behavioral synchrony (PBS). Additionally, this study examined facets of mother and child self-regulation as moderators of this association. Specifically, it was expected that the relation between PCS and PBS would be the weakest at high levels of mother and child physiological regulation and strongest at low levels of mother and child physiological regulation. Additionally, it was expected that the relation between PCS and PBS would be weakest in the context of high levels of mother emotion regulation or low levels of child emotion dysregulation, and strongest in the context of low levels of mother emotion regulation or high child emotion dysregulation. Analytic models yielded few significant findings, but partial support for hypotheses was found – child RSA suppression, a form of child physiological self-regulation, moderated the relationship between PCS and PBS. The association between PCS and PBS was strongest at low levels of child RSA suppression and there was no relation between PCS and PBS in the context of high levels of child RSA suppression. Findings highlight the role child physiological regulation plays in combatting the negative effects of parent contextual stress while sparking ideas for further investigation.

The first hypothesis was supported – PCS was negatively associated with PBS. This finding is consistent with the minority family stress model and was expected given prior work

demonstrating that contextual stress undermines the parent-child relationship (Shaffer et al., 2018; Kia-Keating et al., 2018) and recent findings that PCS broadly undermines well-being in Latinx and Black Americans (Roche et al., 2018; Bernstein et al., 2019; Hurd et al., 2014). Our finding builds upon prior work substantively by documenting that PCS, a previously-unexplored stressor that disproportionately impacts ethnic minority families (Roche et al., 2018), can undermine the parent-child relationship. Our finding is meaningful given that families of color are experiencing PCS at high rates, with recent research indicating rates are on the rise (Roche et al., 2018; McCarthy & Saks, 2019). It is crucial to further investigate PCS given its relevance to the well-being of families of color and potential implications for intervention programming.

Hypothesis two stated that the association between PCS and PBS would be weakest at high levels of physiological regulation and strongest in the context of low levels of physiological regulation. Analyses partially supported this hypothesis – the association between PCS and PBS was significant and negative at low levels of child RSA suppression and not significant at high levels of child RSA suppression. Our finding that the relation between PCS and PBS was strongest at low levels of suppression builds on previous work with elementary aged children demonstrating that low reactivity in response to stress is typically associated with coping challenges (West et al., 2020; Graziano & Derefinko, 2013) and extends findings to children of color. The lack of significant relation between PCS and PBS at high levels of child RSA suppression is likewise consistent with prior work (e.g., Moffitt et al., 2010; Davis et al., 2017b) and theoretical tenets of Polyvagal Theory, which posits that RSA suppression is a physiological indicator of self-regulation (Porges, 2007). Our findings extend this work by showing how child physiological regulation can serve a protective role in the face of a culture specific stressor

disproportionately impacting families of color (MacLeod et al., 2020; Roche et al., 2018; McCarthy & Saks, 2019).

The model that investigated mother physiological regulation as a moderator between PCS and PBS was not significant, which was unexpected given previous work demonstrating that maternal physiological regulation promotes healthy parenting practices (Kia-Keating et al., 2018; Lengua et al., 2021; Shaffer et al., 2018). Previous work with ethnically diverse mothers showed that mothers who were physiologically regulated engaged in more positive parenting practices than mothers who were less physiologically regulated (Shaffer et al., 2018). Polyvagal Theory (Porges, 2007) explains how RSA values can reflect self-regulation (Porges & Buczynski, 2017). However, studies have indicated conflicting trends regarding how varying levels of physiological regulation are adaptive or maladaptive based on differing contexts and risk factors (Davis et al., 2018; Baker et al., 2015; Merwin et al., 2017; Smith et al., 2016). For example, in the context of high levels of psychopathology, high levels of physiological suppression can actually be maladaptive and reflective of hyperreactivity to stressors (Hinnant & El-Sheikh, 2013; Rottenberg, 2007, West et al., 2020). PCS is a severe stressor encapsulating burdensome challenges people of color face, and therefore may operate similarly to psychopathology in regard to physiological regulation. Additionally, prior work regarding physiological regulation has primarily investigated White samples of mother-child dyads, and trends found in these samples may not be applicable to our sample of mothers facing PCS. The function of physiological self-regulation specifically in families of color facing high levels of contextual stress is an important consideration for future studies.

Hypothesis two also noted child emotion dysregulation and mother adaptive emotion regulation as moderators. Child emotion dysregulation did not significantly moderate the

association between PCS and PBS. Children high on measures of emotion dysregulation are unlikely to implement adaptive emotion regulation skills. Given the expectation that children high in Lability/Negativity are experiencing regulatory deficits, the lack of significant buffering findings for child emotion dysregulation was surprising. Previous work demonstrates that emotion regulation fosters children's ability to cope with stress and is a protective factor against stressors (Eisenberg et al., 1993; Eisenberg et al., 1997; Troy & Mauss, 2011), therefore we expected an association between PCS and PBS when children were experiencing regulatory deficits. The present study used the Lability/Negativity subscale from the Emotion Regulation Checklist, a validated parent-report of child emotion dysregulation (ERC; Shields & Chicchetti, 1997). Parents of ethnic minority children may be less likely to report on problematic emotional behaviors due to fear of discrimination against their child. Previous work has demonstrated that parenting stress surrounding endorsement of child challenges can influence reporting (Stokes et al., 2011), and this may be amplified when considering cultural factors (e.g., likelihood of discrimination, risk for stereotyping). Underreporting appeared present in our study given our sample's means responses on the Lability/Negativity subscale of the ERC were lower than previously reported means (Shields & Chicchetti, 1997). Perhaps using the emotion regulation subscale that probed parents to report on adaptive functioning would have yielded different results, and should be investigated in future studies. However, the ERC emotion regulation subscale was not reliable within our sample. Few prior studies have used this scale in school-aged non-White populations, and in those that have the adaptive emotion regulation scale demonstrates lower reliability than the Lability/Negativity scale (Shipman et al., 2007; Shields & Chicchetti, 1997). A lack of substantial prior work using this scale with ethnic minority children leaves open the possibility that this scale is not accurately assessing emotion regulation in

samples similar to ours. Inaccurate assessment of emotion regulation may be due to differences in emotion socialization and expression in ethnic minority families (Nelson et al, 2012). Future work should focus on reliable assessment methods for capturing adaptive emotion regulation in ethnic minority children.

The hypothesis that mother adaptive ER would moderate the association between PCS and PBS was not supported. Given previous work in similar samples illustrating that mothers who are well-regulated engaged in more optimal parenting practices, we anticipated mother emotion regulation would buffer the impact of contextual stress (Shaffer et al., 2018). Cognitive reappraisal has been shown to buffer negative outcomes in the context of stress, previously demonstrating an association with better psychological functioning in the face of discrimination stress in an ethnic minority sample (Soto et al., 2012; Pakenham, 2005; Troy et al., 2010; Troy & Mauss, 2011). However, it may be that skills such as cognitive reappraisal are not as relevant in the context of high levels of PCS as they are in regard to other contextual stressors and broader measures of discrimination. The ability to reframe cognitions in the face of stress as a self-regulatory skill may be a luxury that is not applicable specifically in the context of as PCS, particularly when it relates to endangerment of children (Roche, 2018). The PCS scale includes questions regarding parental perception of how anti-immigration legislation and discrimination may put their child and/or family at risk. Only seven of the eighteen questions on this scale are focused around the individual reporting, with all other items including a note about the effects of PCS on a child or other family members. Perhaps cognitive reappraisal can demonstrate an association with better psychological functioning against certain forms of personal discrimination, but is less useful when parents are concerned with their child or other family member's well-being. Future work should further tease these differences apart and investigate

additional self-regulatory skills to determine how they operate in the face of ethnic minority stressors.

The present study investigated a novel salient culturally specific stressor in the context of the parent-child relationship in ethnic minority families. Study participants resided in emergent immigrant areas, which are largely underrepresented in research and are crucial to consider in the context of cultural stressors (Ebert & Ovink, 2014). The present study employed multiple methods of self-regulation, allowing investigation of self-report and physiological indices of this variable. Despite numerous strengths, this study had limitations. Although the present study included PCS, future work should further delve into the unique social and cultural contexts experienced by ethnic minority families to identify additional stressors (e.g., home-school dissonance, language barriers, microaggressions, acculturation stress) in the context of the parent-child relationship. Additionally, our sample size did not allow for investigation into differences between Latinx and Black dyads. Future work should examine how PCS and other culture-specific stressors may impact these distinct racial and ethnic groups differently. Lastly, our study focused solely on mother-child dyads, and did not investigate the role fathers may play despite previous work noting their importance in adaptive child development (Cabrera et al., 2018; Paquette et al., 2013). It is important to identify how PCS may undermine the father-child relationship more specifically, and additionally how two-parent households withstand contextual stress.

Rooted in the ethnic minority family stress model, we aimed to discern how the relationship between PCS and PBS may be moderated by physiological and emotion regulation. Our findings illustrated a relationship between PCS and the parent-child relationship, and demonstrated child physiological self-regulation can buffer the negative implications of parental

contextual stress. Future work should identify additional moderators of PCS and PBS to inform intervention efforts and better equip families to combat contextual stress. Additionally, future work should investigate best practices for assessing facets of self-regulation in ethnic minority families.

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Tables and Figures

Table 1

Descriptive Statistics and Correlations for Demographics and Study Variables

Variable	*M* (*SD*)	1	2	3	4	5	6	7	8
1. Income	6.28 (3.36)	-							
2. Child Gender	1.51(.50)	-.02	-						
3. PBS	4.71(1.62)	-.06	.19	-					
4. PCS Avg	2.26(.91)	.08	-.28**	-.25*	-				
5. M RSA Supp	-.01(.68)	.02	-.03	-.04	.10	-			
6. C RSA Supp	-.64(.68)	-.13	-.32*	-.03	.02	-.17	-		
7. ERQ CR	34.48(6.67)	.02	.01	.03	.09	.05	.26*	-	
8. ERC L/N	1.93(.45)	.03	-.07	-.02	.13	-.04	-.13	-.11	-

Note. Child Gender (1 = boy; 2 = girl); PBS = Positive Behavioral Synchrony; PCS = Political Climate Scale; Avg = Average; M = Mom; RSA = Respiratory Sinus Arrhythmia; Supp = Suppression; C = Child; ERQ = Emotion Regulation Questionnaire; CR = Cognitive Reappraisal; ERC = Emotion Regulation Checklist; L/N = Lability/Negativity.

$^{*}p < .05$, $^{**}p < .01$.

Table 2

Moderation Analyses

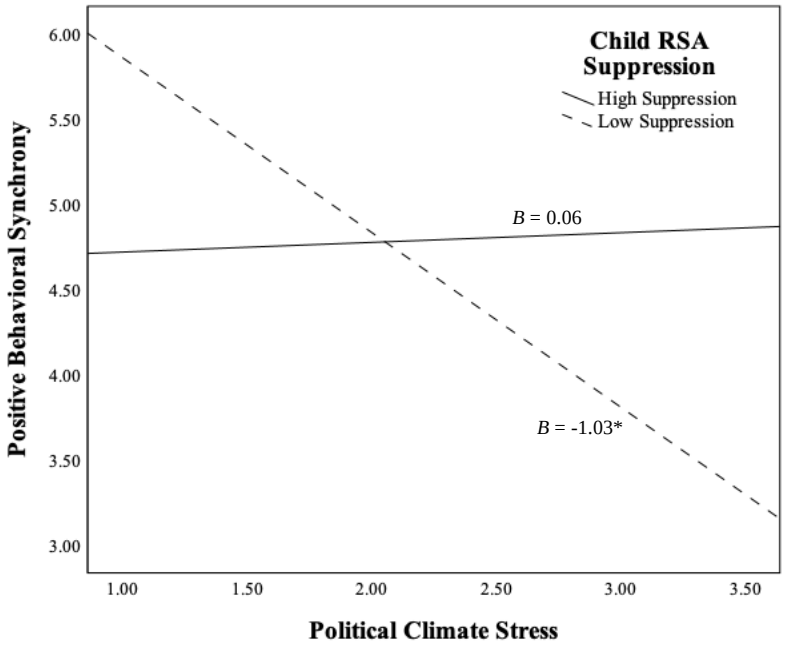
Outcome Variable	R^2	*F*	*df*	*b*	SE	95% CI
PBS	.16	3.78*	(3,58)			
PCS Avg				-.98	.29	-1.57, -.39
C RSA Supp				1.60	.74	.11, 3.08
PCS Avg x C RSA Supp				-.78	.32	-1.42, -.14
PBS	.28	1.69	(3,61)			
PCS Avg				-.34	.22	-.79, .10
M RSA Supp				-1.14	.77	-2.67, .39
PCS Avg x M RSA Supp				.44	.30	-.15, 1.04
PBS	.32	3.15	(3,80)			
PCS Avg				1.74	1.24	-4.31, 5.94
ERQ CR				.14	.07	-.00, .29
PCS Avg x ERQ CR				-.06	.03	-.13, .01
PBS	.31	2.88	(3,81)			
PCS Avg				-1.84	.81	-3.46, -.21
ERC L/N				-1.72	1.05	-3.80, .36
PCS Avg x ERC L/N				.70	.40	-.10, 1.48

Note. PBS = Positive Behavioral Synchrony; PCS = Political Climate Scale; Avg = Average; M = Mom; RSA = Respiratory Sinus Arrhythmia; Supp = Suppression; C = Child; ERQ = Emotion Regulation Questionnaire; CR = Cognitive Reappraisal; ERC = Emotion Regulation Checklist; L/N = Lability/Negativity.

*$p < .05$.

Figure 1

Child RSA Suppression as a Moderator of the Relation Between PCS and PBS



Note. High suppression reflects values one standard deviation above the mean. Low suppression reflects values one standard deviation below the mean.

$^{*}p < .05$.