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Early Childhood Foundations of Adolescents' Critical Consciousness in Under-Resourced and Minoritized Communities: The Roles of Prosocial Behavior and Cognitive Self-Regulation in Middle Childhood

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EARLY CHILDHOOD FOUNDATIONS OF ADOLESCENTS' CRITICAL CONSCIOUSNESS IN UNDER-RESOURCED AND MINORITIZED COMMUNITIES: THE ROLES OF PROSOCIAL BEHAVIOR AND COGNITIVE SELF-REGULATION IN MIDDLE CHILDHOOD

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All people should be equal in their rights before you because injustice cannot substitute justice.

–Ali ibn Abu Talib, *Nahj al-Balagha*

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ABSTRACT

As Black and Latino teens from under-resourced backgrounds remain vulnerable to oppressive forces, critical consciousness has emerged as a developmental asset that involves understanding, reflecting upon, and acting against inequitable social structures. However, scholars have yet to determine how critical consciousness may fit into a developmental framework, leaving unanswered questions regarding the roots of adolescents' critical consciousness. By integrating sociopolitical and developmental frameworks, this dissertation empirically examined how early environmental factors and individual competencies set the stage for critical consciousness during adolescence, via prosocial and self-regulatory skills during middle childhood. Longitudinal data were drawn from the *Chicago School Readiness Project* (CSRP), which includes a sample of predominantly Black and Latino teens from under-resourced backgrounds, who were initially recruited to join the study as young children attending Head Start. Unexpectedly, findings indicated that higher levels of preschool classroom quality predicted lower prosocial behavior during middle childhood and sociopolitical efficacy during adolescence. However, prosocial skills in preschool and middle childhood were associated with critical action in the teen years. Additionally, cognitive regulation in middle childhood was related to sociopolitical efficacy during adolescence. This dissertation concludes with a discussion on ways in which prosocial behavior and cognitive self-regulation during middle childhood served as mediators for these linkages. Overall, findings highlight the importance of considering both early and middle childhood factors when studying antecedents of critical consciousness.

CHAPTER ONE

INTRODUCTION

Among Black and Latino youth, the negative impact of systemic oppression on developmental trajectories tends to be evident from a young age, through adolescence, as well as into adulthood (García Coll et al., 1996; Suarez-Orozco et al., 2018). For example, experiences with racism among children and teens are likely to be linked with lower academic achievement and self-esteem (Alfaro et al., 2009; Dotterer et al., 2009; Umaña-Taylor et al., 2008), as well as an increase in behavior problems (Marcelo & Yates, 2019). Furthermore, approximately 23% of Latino children and 26% of Black children in the U.S. belong to families living in poverty (U.S. Census Bureau, 2020). Such racial and economic inequities are related to greater school drop-out rates among Black and Latino youth compared to their White and Asian counterparts (National Center for Education Statistics, 2019). In turn, lower educational attainment raises the risk for experiencing lower socioeconomic status in succeeding generations (Jagers et al., 2018; Sirin, 2005). In sum, much of the existing research on ethnically and racially minoritized youth examines how a lack of social and economic resources compromises development (Duncan et al., 2014; Votruba-Drzal, 2006).

Conversely, *critical consciousness* (CC) has been found to be related to many aspects of positive well-being among adolescents and young adults of color (Heberle et al., 2020). Critical consciousness has been deemed a developmental asset as it has the potential to empower marginalized youth (Diemer et al., 2016; McWhirter & McWhirter, 2016). Moreover, according

to their integrative model for child development, García Coll and colleagues (1996) indicate that the unique experiences faced by marginalized youth should be incorporated into models of adjustment across the lifespan. In other words, the sociocultural experiences of marginalized children and teens should be recognized when examining their developmental competencies. Specifically, García Coll and colleagues (1996) acknowledge that the adaptive functioning of youth of color include their ability to recognize, cope, and confront such sociopolitical forces, as well as understand how they may shape their position in society. This perspective is consistent with the definition of critical consciousness, which also fits within strength-based models of development among minority youth (Cabrera, 2013; Heberle et al., 2020).

Commonly connected to Brazilian philosopher-educator, Paulo Freire, critical consciousness specifically refers to one's ability to understand, examine, and engage in actions against the oppressive forces that shape societal infrastructures (Freire, 1970; Seider et al., 2020). According to contemporary scholars, critical consciousness includes three components: *critical reflection*, *sociopolitical efficacy*, and *critical action* (Diemer et al., 2017; Watts et al., 2011). Critical reflection refers to being aware of and perceiving existing social inequalities in one's society. In addition, sociopolitical efficacy encompasses one's beliefs about their own ability to enact positive social change, and to work towards creating a more just world. Lastly, critical action includes engaging in behaviors to challenge oppressive forces.

Prior research has found that critical consciousness is linked to a range of positive outcomes on youth's well-being (see Maker-Castro et al., 2022). For instance, critical consciousness is associated with better career expectancies, career decision-making, career exploration, post-graduate occupations, as well as stronger connections to one's future career

(Diemer & Blustein, 2006; Diemer & Hsieh, 2008; McWhirter & McWhirter, 2006; Nicholas et al., 2019; Olle & Fouad, 2015; Pérez-Gualdrón & Helms, 2017; Rapa et al., 2018; Uriostegui et al., 2020). Furthermore, critical consciousness is linked with increased community engagement, such as participating in afterschool programs and voting behavior (Christens & Dolan, 2011; Diemer, 2012; Diemer & Li, 2011; Diemer & Rapa, 2016; Pérez-Gualdron & Helms, 2017; Roy et al., 2019). Lastly, critical consciousness has been found to be a positive predictor of social and emotional functioning, including social competence, self-esteem, sympathy, and self-efficacy (Clonan-Roy et al., 2016; Delia & Krasny, 2018; Luginbuhl et al., 2016).

Given that critical consciousness is deemed a developmental asset among youth from marginalized backgrounds (Diemer et al., 2016; McWhirter & McWhirter, 2016), sociopolitical scholars have examined ways in which critical consciousness may be fostered. However, this area of research has often focused on pedagogical and socialization practices during adolescence as antecedents of youth's critical consciousness development (see Heberle et al., 2020). As such, less is known regarding the childhood roots of critical consciousness development. Yet, there is reason to believe that early environmental settings and individual competencies set children on pathways towards civic engagement (Astuto & Ruck, 2010; Holbein et al., 2022; Kitchens & Gormley, 2023; Reifen-Tagar & Cimpian, 2022). Although civic engagement is similar to critical consciousness, civic engagement is often encompassing of behaviors and values that maintain the status quo, rather than challenging systemic social inequities (Watts et al., 2011).

As such, this dissertation takes a more holistic view of critical consciousness development across the lifespan, by examining ways in which preschool classroom quality, as well as children's prosocial and cognitive self-regulation skills, shape Black and Latino teens'

critical consciousness development. In doing so, the present study combines three existing theoretical models: García Coll and colleagues' (1996) integrative model of child development, Erikson's psychosocial theory of identity development (1965), and models of youth sociopolitical development (Astuto & Ruck, 2010; Watts & Flanagan, 2007). By expanding developmental frameworks on adolescents' critical consciousness to include early childhood settings as well as children's prosocial and self-regulatory competencies, this dissertation aimed to provide a deeper understanding of the mechanisms by which critical consciousness emerges among youth of color.

Theoretical Framework

Integrating Psychosocial & Sociopolitical Theories on Identity

By analyzing and reflecting upon forces that shape one's position in society (i.e., being critically conscious), teens are engaging in identity exploration as described by Erikson's psychosocial theory of identity development (Seider et al., 2018; Seider et al., 2020). This theory emphasizes how the conscious and rational component of one's identity shapes behaviors and competencies, allowing individuals to become contributing members of their family, community, and larger society. According to Erikson (1968), adolescence is a key period for identity development, as teens move beyond following their families' teachings to creating their own sense of what their beliefs and values are, who they are, and who they would like to be. Additionally, it is during this period that teens begin to develop a wider understanding of the world outside their immediate contexts (e.g., communities, societies), as well as how they fit into the world around them.

Existing theoretical models on sociopolitical development also speak to identity during adolescence. Sociopolitical development refers to an individual's understanding of how political, cultural, and economic entities may shape their social status and identity, as well as their growth in sociopolitical knowledge, critical analyses, and capacity for action. For scholars in this field, critical consciousness is an aspect of sociopolitical development (SPD; Watts et al., 2003). Consistent with developmental theorists, sociopolitical scholars Watts and Flanagan (2007) emphasize the importance of having opportunities in one's environment to build their knowledge of social inequities, to analyze social inequities, and to engage in actions that challenge oppressive forces. However, Watts and Flanagan (2007) do not describe how skills that emerge prior to adolescence may serve as precursors to sociopolitical competencies.

In contrast, Erikson's (1965) theory covers the lifespan, where development during adolescence is viewed as dependent on prior stages. Long before adolescence, children begin to take initiative with their growing skills during early childhood, when they can do so in the context of adults' support (Erikson, 1965). García Coll and colleagues (1996) posit that environmental contexts in which marginalized children live and learn may either "promote" or "inhibit" their positive development. According to García Coll and colleagues (1996), higher quality educational experiences may help strengthen children's social and cognitive skills. However, lower quality educational experiences may insufficiently support children's growth in their social and cognitive skills.

Classroom quality refers to a multidimensional construct encompassing aspects of the classroom environment which help shape children's academic and social outcomes. Dimensions of *classroom quality* include proximal interactions between teachers and students involving

social, emotional, and instructional elements (La Paro et al., 2004). The emotional support dimension of classroom quality refers to teachers being sensitive and responsive towards children's needs and providing a positive emotional climate for students (La Paro et al., 2004). The organization and management dimension of classroom quality entails learning formats (e.g., age-appropriate instructional support for early literacy) and proactive practices used to manage behaviors in the classroom (La Paro et al., 2004).

Better classroom quality creates opportunities for children to express their existing skill sets, while also facilitating their learning and development of complex and advanced skills (Nguyen et al., 2020). For example, in high quality preschool classroom environments, educators are more likely to promote competencies such as *cognitive self-regulation* and *prosocial behavior*, both of which may contribute to later critical consciousness. Cognitive self-regulation involves children's abilities to control their attention and use their working memory (Nigg, 2017), whereas prosocial behaviors refer to actions performed to benefit another individual (Eisenberg et al., 2006). Such actions include, but are not limited to helping, volunteering, caring for, and being kind towards others (Carlo & Conejo, 2019; Hay & Cook, 2007). In addition, the tendency to engage in prosocial behaviors may be motivated by a variety of factors (e.g., is the action self- or other-oriented; Eisenberg et al., 2006). For example, children may behave in a prosocial manner due to altruistic concern for another person's welfare, or may help another person in response to a verbal or nonverbal request (Carlo & Randall, 2002; Eisenberg et al., 1981; Eisenberg & Fabes, 1998; Hay & Cook, 2007).

During middle childhood, there are advances in cognitive self-regulation and prosocial behavior. This is a developmental stage during which relationships and interactions with other

individuals further facilitate children's understanding of themselves and their capabilities (Erikson, 1965). Middle childhood is a period during which children develop a sense of industry (e.g., how their development of useful skills at this time lays the groundwork for their future roles in greater society). For instance, older children draw upon their prosocial skills and cognitive self-regulation in ways that facilitate social problem solving in their immediate contexts. This process may be laying the groundwork for later sociopolitical development and addressing larger societal problems (e.g., critical reflection upon social structures, confidence in the ability to enact positive social change, engagement in actions that challenge oppressive forces; Astuto & Ruck, 2010; Heberle et al., 2020).

Prosocial and Self-Regulation Development

Prosocial actions tend to emerge during toddlerhood, with some children exhibiting rudimentary skills soon after their first birthday (Warneken & Tomasello, 2007). In addition, prosociality during early childhood has been found to predict prosocial behaviors through adolescence (Eisenberg et al., 1999; Eisenberg et al., 2013). Scholars often attribute this to young children's capacity to internalize prosocial actions into one's moral framework for behavior (Carlo et al., 2020; Eisenberg et al., 2006; Hay & Cook, 2007). In other words, by practicing prosocial behaviors during early childhood, children are strengthening their ability to prompt and engage in helping behaviors throughout childhood and adolescence.

It is during the period of middle childhood that prosocial actions are further internalized as school-aged children become more aware of the thoughts, feelings, and behaviors of others (Hoffman, 2008). Furthermore, middle childhood is a period during which children spend more time with similar-aged peers. This provides opportunities to build supportive and reciprocal

relationships as children develop interpersonal connections (e.g., friendships) and interest in the well-being of groups to which they belong (e.g., family and peer groups; Eisenberg & Fabes, 1998).

Similarly, the development of cognitive self-regulation has its roots in infancy (e.g., attentional focus on objects at 9 months of age; Kochanska et al., 2000) and further emerges during the preschool years (Diamond, 2013). Prior research suggests that earlier executive functions (e.g., ignoring distraction) set the stage for later cognitive self-regulation during middle childhood (e.g., self-monitoring; Friedman et al., 2014; Li-Grining et al., 2019; Morrison & Grammer, 2016). With growing metacognitive abilities (e.g., reflecting on one's own thoughts), school-aged children are better equipped to engage in the more complex self-regulation processes involved in problem solving, self-correcting behavior, and future-oriented planning (e.g., preparing to present a project to one's class the next day; Friedman et al., 2014; Nigg, 2017).

It is important to note that not only does self-regulation change over time, but this change also occurs across multiple dimensions of self-regulation. The existing literature on self-regulation constructs can be confusing, as it often includes overlapping definitions depending on what aspect of development is being regulated (e.g., attention, behavior, or emotions; see Nigg, 2017 for a review). For example, tasks that tap effortful control, or "delay of gratification", are less demanding on working memory and more behaviorally and emotionally laden (e.g., turning away from a tempting piece of candy after being asked to wait to eat it after lunch; Nigg, 2017; Li-Grining, 2019). In contrast, tasks that measure executive functions are more demanding on working memory and less emotionally laden (e.g., remembering not to copy someone else's

action but show a different behavior). In middle childhood, effortful control can occur over longer time spans (e.g., reading every day after school to finish a book rather than playing with friends), and has been found to shape both cognitive and behavioral dimensions of self-regulation (Li-Grining et al., 2019). Given these complexities, this dissertation addresses behavioral regulation, but focuses on cognitive self-regulation given the particular role that it may play in social problem solving.

Preschool Classrooms as Democratic Contexts

Even though sociopolitical models do not speak to the contribution of early childhood settings and middle childhood competencies on adolescents' critical consciousness, conceptual frameworks that span multiple developmental periods have been outlined by scholars in the field of youth civic engagement and political psychology (i.e., attitudes, knowledge, and behaviors in relation to community sociopolitical issues; Astuto & Ruck, 2010; Flanagan, 2004; Reifen-Tagar & Cimpian, 2022). While early childhood educators may be able to incorporate social justice themes into their classrooms (Park et al., 2022), preschool is too early for teachers to have open dialogues about socio-political issues. Still, higher quality preschool classrooms may promote children's later prosocial behavior and cognitive self-regulation (Broekhuizen et al., 2016; Rimm-Kaufman et al., 2009). In turn, these skills may help facilitate adolescents' critical thinking about sociopolitical issues (Astuto & Ruck, 2010). According to youth civic engagement scholars Astuto and Ruck (2010), early childhood classrooms may serve as a democratic context in which children develop skills required for civic engagement in the future. In line with this, political psychology scholars, Reifen-Tagar & Cimpian (2022), posited that

young children have the capacity to engage in proto-political sensitivities (e.g., understanding of group norms) and attitudes (e.g., believing that inter-group hierarchies are wrong).

During preschool, young children first embark on their educational journey beyond family life at home, and their immediate social environments initially expand to include classroom interactions with teachers and students (Bronfenbrenner, 1977; Rimm-Kaufman & Pianta, 2000). In these formal settings, preschoolers learn how to interact with children who represent a broader set of backgrounds and perspectives than their families. This experience may facilitate growth in prosocial skills (e.g., helping, taking turns with others) and self-regulation (e.g., how to focus their attention on classroom behavioral expectations) in early childhood and beyond.

As mentioned earlier, preschool teachers are not likely to have open dialogues about socio-political issues with young children. The pedagogical approaches used among adolescents to promote critical consciousness would not be developmentally appropriate in early childhood classrooms. According to Freire, critical consciousness may be facilitated through pedagogy that engages individuals in open dialogue about their unique experiences with social inequalities, while maintaining respect for diverse opinions (termed “problem-posing education”; Ahad-Legardy & Poon, 2018; Diemer at al., 2016; Freire, 1970). Similarly, contemporary pedagogical approaches during which teachers promote conversations about social and political issues tend to facilitate growth in critical consciousness among teens (Heberle et al., 2020; Seider et al., 2017). Students and teachers may talk about their experiences with marginalization, and link those experiences to institutional oppression, thus allowing students to apply personal knowledge

accumulated from their families, communities, and cultures to their learning (Diemer et al., 2016; Sánchez Carmen et al., 2015).

For example, a recent mixed methods study on ways in which differing pedagogical approaches foster critical consciousness included interviews with predominantly Black and Latino teens attending urban high schools with various teaching methods (Seider et al., 2017; Seider et al., 2023). Qualitative interviews indicated that students who engaged in practices promoting social intelligence (i.e., understanding unspoken and formalized expectations of actions in social situations; Jones & Day, 1997) felt as though they were better able to navigate through settings where class and racial inequality were evident. In addition, findings from Seider et al.'s studies suggested that students who attended schools with pedagogical approaches promoting critical thinking skills (i.e., "problem-posing educational practices") tended to demonstrate higher levels of critical consciousness compared to students at other schools.

In high quality preschool classrooms that operate as democratic contexts for young children, it could be that teachers are helping children use prosocial skills and cognitive self-regulation in order engage in social problem solving with other students. Preschool teachers can help young children focus on a problem at hand (e.g., more children want to play a board game than it allows), remember relevant information (e.g., who already took a turn and for how long), and plan steps to solve the problem (e.g., set a timer for each turn). In addition, preschool teachers who foster prosocial behavior may encourage children to hold an outward orientation and identify as a member of the classroom. Here, social problem solving is not limited to serving one's self-interest, but also includes addressing group needs.

Importantly, these skills may serve as foundations for later critical consciousness development during adolescence. When teens engage in critical consciousness, they reflect on the experiences of oneself and the groups to which they belong (e.g., racial, ethnic, cultural groups) in the context of societal and institutional inequities. Moreover, using critical consciousness to address societal and institutional problems, and to feel confident about doing so, requires the ability to focus, to keep in mind complex issues, and to create a plan of action. Yet, the existing literature on critical consciousness development is often limited to adolescents, and the role of early childhood classrooms and middle childhood competencies has yet to be determined.

In sum, this dissertation combines three existing theoretical models. These include García Coll et al.'s (1996) integrative model of child development, Erikson's psychosocial theory of identity development (1965), and models of youth sociopolitical development (Astuto & Ruck, 2010; Watts & Flanagan, 2007). By expanding developmental frameworks on adolescents' critical consciousness to include early childhood settings as well as social and cognitive competencies during middle childhood, this dissertation aims to provide a deeper understanding of the mechanisms by which critical consciousness emerges among youth of color.

Guided by the integrated theoretical model described above, the literature review contains sections that address the following topics: (1) associations between preschool classroom quality and outcomes among Black and Latino youth from under-resourced neighborhoods, (2) relations from preschool classroom quality to prosocial behavior and cognitive self-regulation, (3) links from prosocial behavior and cognitive self-regulatory skills to critical consciousness, and (4) mediation of the linkages from preschool classroom quality to teens' critical consciousness,

through the development of prosocial behaviors and cognitive self-regulation during middle childhood.

Preschool Classroom Quality and Outcomes Among Youth from Under-Resourced Communities

To what extent has preschool classroom quality been linked to well-being in adolescence? A long line of prior research suggests that high quality early childhood educational settings positively contribute to children's well-being across the lifespan (Campbell & Ramey, 1994; Heckman et al., 2010; Reynolds et al., 2011). For instance, past studies show that higher preschool classroom quality predicts a wide range of social and cognitive outcomes during adolescence, such as better grades, academic self-concept and aspirations, social skills, as well as fewer behavioral problems and risky behaviors (Ansari, 2020; McCoy et al., 2019; Vandell et al., 2010). In addition, a small but growing literature has found early childhood educational settings to be predictive of voting behaviors during adulthood (Holbein, 2017; Holbein et al., 2022; Kitchens & Gormley, 2023).

For example, Kitchens and Gormley (2023) investigated how attending preschool may be predictive of registering to vote, and subsequently voting among predominantly Black and Latino young adults from under-resourced communities. Findings from this study suggested that, compared to children who did not attend preschool, children who attended preschool were more likely to engage in voting soon after they turned 18. Similarly, a previous study by Holbein and colleagues (2022) with predominantly Black students from under-resourced backgrounds examined the effects of an early childhood intervention on voter turnout when participants were in their early 30's. The intervention took place when participants were starting the first grade,

and focused on teachers' promotion of emotion regulation and social-cognitive skills through teachers' classroom management practices. Findings from this study indicated that participants included in the treatment group were more likely to register to vote, and then subsequently engage in voting, in their early thirties compared to those who were in the control group (Holbein, 2017; Holbein et al., 2022). Although Holbein, (2017; Holbein et al., 2022) and Kitchens and Gormley (2023) do not focus on aspects of civic engagement that challenge the status quo in a way that critically conscious behaviors might, these studies highlight the importance of early childhood educational settings as foundations for participating in one's democracy during adulthood. As such, more research is required to determine ways in which early childhood educational settings may serve as a rudimentary ground for developing and engaging in critically conscious beliefs and actions during adolescence.

More specifically, this dissertation focuses on preschool classroom quality because scholars have indicated that investing in the quality of education for preschoolers has one of the highest rates of return for society compared to interventions that take place later in life (Heckman et al., 2010). For example, findings from an early childhood intervention program that included predominantly Black preschoolers from under-resourced backgrounds indicated that students who attended higher quality preschool classrooms were more likely to have lower high school dropout rates, less substance use, and fewer felony charges during adulthood, especially among participants whose parents did not complete high school (Reynolds et al., 2011). This is congruent with other past studies on the benefits of preschool classroom quality, where results have been especially salient for families lacking social and economic resources, and who are disproportionately from racially and ethnically minoritized backgrounds (Burchinal et al., 2010;

Bustamante et al., 2021). Such interventions target the quality of young children's classrooms, and as a result, reflect the importance of high quality preschool classrooms for later well-being.

Overall, existing studies examining the long-term effects of early childhood classroom quality have found significant linkages to social and academic outcomes during adolescence, particularly for Black and Latino children from under-resourced backgrounds. However, no existing research has investigated the contribution of high quality preschool classrooms to the three dimensions of adolescents' critical consciousness: critical reflection, sociopolitical efficacy, and critical action. Therefore, this dissertation research would be the first study to examine these particular longitudinal linkages.

Preschool Classroom Quality, Prosocial Behavior, and Cognitive Self-Regulation

Preschool Classroom Quality to Prosocial Development During Middle Childhood

Greater emotional support and organization in classrooms have often been found to be positive predictors of children's prosocial behaviors (Curby et al., 2009; Downer et al., 2010; Hamre et al., 2014; Mashburn et al., 2008), which has been defined as actions meant to benefit other individuals (e.g., helping, sharing, cooperating, and comforting; Eisenberg et al., 2006). In other words, the prosocial skills of preschoolers are fostered by more responsive and sensitive teacher-child interactions, as well as more proactive instruction and classroom management. However, most of the existing research on associations from preschool classroom quality to social and emotional development during middle childhood focus on behavior problems, rather than positive social skills (Hamre & Pianta, 2001; McCoy et al., 2018; Peisner-Feinberg et al., 2001; Vandell et al., 2010).

Only a few studies suggest that early childhood classroom quality may be predictive of later prosocial skills (Ansari et al., 2020; Berry & O'Connor, 2010; Broekhuizen et al., 2016). In research by Broekhuizen and colleagues (2016), linkages between classroom quality during preschool and under-resourced, racially diverse children's prosocial skills during the first grade were examined. Results from this study suggested that children who experienced higher emotional support and classroom organization in preschool tended to be more prosocial in the first grade compared to children in preschool classrooms with lower emotional support and organization.

Similarly, Ansari and colleagues (2020) examined how closeness between teachers and students during the early years of school (i.e., kindergarten through the second grade) may have predicted students' prosocial skills during adolescence. Findings indicated that greater warmth and positive communication between teachers and students during the early childhood educational years was associated with greater prosocial skills in the ninth grade. The authors suggested that closeness with students may have promoted teachers' ability to keep students engaged with one another. Furthermore, Berry and O'Connor (2010) found that sixth grade children with higher quality relationships with their teachers from kindergarten through sixth grade tended to have greater prosocial skills compared to children with lower-quality relationships with their teachers. However, both Ansari et al. (2020) and Berry and O'Connor (2010) examined teacher-student relationships rather than overall classroom quality.

In line with research linking preschool classroom quality to prosocial skills during middle childhood, extant research examines short-term associations from preschool classroom quality to prosocial skills during early childhood (Johnson et al., 2013; Sabol et al., 2020). For example, a

recent study conducted among Latino and Black families from under-resourced neighborhoods indicated that variance in preschool classroom quality, as measured by instructional support (e.g., how teachers facilitate learning and engagement during activities; La Paro et al., 2004), was associated with young children's prosocial skills (Sabol et al., 2020). Specifically, preschoolers in classrooms with better instructional support at the start of the year tended to exhibit greater cooperation compared to peers at the same center who were enrolled in classrooms with less instructional support. Yet, these previous studies do not investigate linkages to prosocial development in middle childhood.

Overall, these prior studies suggest that being a student in emotionally responsive and organized preschool classrooms may facilitate the prosocial development of children from marginalized communities. However, much of the literature examining associations between early childhood educational contexts and prosocial behaviors during middle childhood focus on individual teacher-student relationships, rather than classrooms' socioemotional climate or teachers' classroom management. In addition, studies linking preschool classroom quality to prosocial skills are often limited to the early childhood years. As such, with the exception of research by Broekhuizen and colleagues (2016), it is still unclear how early childhood classroom quality may promote prosocial skills during middle childhood.

By further examining linkages between preschool classroom quality and prosocial behavior in middle childhood, additional research would increase confidence about the robustness of this association. It could be that children with teachers who provide a more supportive and organized classroom environment have greater opportunities to help and cooperate with their peers, thus strengthening their prosocial skills and setting the stage for later

prosocial development during middle childhood. As such, the present study aims to examine how prosocial behaviors during middle childhood may be shaped by preschool classroom quality.

Preschool Classroom Quality to Cognitive Self-Regulation During Middle Childhood

Better classroom quality has also been detected as a predictor of elevated self-regulation (Duncan, 2003; Hamre et al., 2014; Pianta et al., 2021). Specific aspects of classroom quality that have been found to be related to young children's self-regulation include classroom organization and management, as well as social and emotional support from teachers (Pianta et al., 2002; Raver et al., 2011; Rimm-Kaufman et al., 2009; Williford et al., 2013). Yet, extant research on longitudinal links to cognitive development during middle childhood often focus on academic achievement, rather than cognitive self-regulation (Schmerse, 2020; Vandell et al., 2010).

Interventions focused on promoting classroom quality have been linked with an increase in self-regulatory skills among young children (Weiland & Yoshikawa, 2013), with few studies examining long-term effects of higher quality preschool classrooms on cognitive self-regulation during middle childhood. In the Chicago School Readiness Project (CSRP), which was a randomized controlled trial intervention conducted in under-resourced neighborhoods, researchers targeted improvement in preschoolers' school readiness by providing teachers with training and support strategies to help manage children's behavior (Raver et al., 2011). Initial findings indicated that children in classrooms which were randomly assigned to the treatment group tended to receive more social and emotional support from teachers (Raver et al., 2008). In other words, the results of the intervention found that preschool classrooms in the treatment group had significantly higher classroom quality compared to classrooms in the control group. In

a study by McCoy and colleagues (2019), children belonging to classrooms in the CSRP treatment group showed marginally better inhibitory control (e.g., suppressing attention to irrelevant stimuli, controlling automatic responses; McCoy et al., 2019) in high school compared to children in the control group. However, this past study specifically investigated the impacts of an early childhood experimental treatment on teens' self-regulation, rather than the importance of high quality preschool classrooms for cognitive self-regulation (e.g., planning and problem solving) in middle childhood. Still, these findings provide some insight into how promoting classroom quality during early childhood may have long-lasting benefits for children's self-regulation.

Furthermore, most of the literature linking preschool classroom quality to self-regulation is limited to associations during the early childhood years (Fuhs et al., 2013; Hamre et al., 2014; Rimm-Kaufman et al., 2009). For example, research by Fuhs and colleagues (2013) examined associations between preschool classroom quality (i.e., teachers' behavioral management, responsivity, and instructional support) in the fall of the academic year and preschoolers' cognitive self-regulation (e.g., attentional focus, working memory, and inhibitory control) in the spring. Findings from their study indicated that both behavioral management and emotional tone were linked with gains in cognitive self-regulation, while controlling for earlier cognitive self-regulation.

Similarly, in a longitudinal study, Rimm-Kaufman and colleagues (2009) examined associations between kindergarten classroom quality during the fall of the academic year and children's self-control in the spring. The sample consisted of families from under-resourced backgrounds. Results for this study indicated that better classroom management was significantly

linked with greater self-regulation, while controlling for children's self-regulatory skills at the beginning of the school year. More specifically, high quality early education may further promote young children's persistence (e.g., the ability to stay on task while other objects in their environment may be competing for their attention; Rimm-Kaufman et al., 2009). It could be that being a student in a well-managed classroom promotes children's internalization of behavioral expectations, which leads to an improvement in their self-regulation.

In addition to the benefits of being a student in a well-managed classroom, positive social and emotional interactions between teachers and young children often foster children's self-regulation (Raver et al., 2011). Research conducted by Hamre and colleagues (2014) aimed to determine types of teacher-child interactions that promoted preschool children's self-regulation, which they captured in terms of inhibitory control and working memory. Their sample predominantly consisted of Black and Latino preschoolers from families with under-resourced backgrounds. Findings from their study indicated that students enrolled in classrooms high in responsive teaching (i.e., sensitivity and regard for students' needs, providing a positive emotional climate in the classroom) tended to develop better working memory skills compared to students with less responsive teachers. Similarly, young children who experienced more positive interactions with their teachers tended to demonstrate greater persistence compared to peers who experienced fewer positive interactions with their teachers (Pianta et al., 2002). Similar to findings for overall classroom quality, more positive teacher-child interactions appear to be related to young children's self-regulatory abilities.

In general, prior research indicates that being in emotionally responsive and organized preschool classrooms promotes cognitive self-regulation skills among young children from

marginalized communities. Furthermore, intervention studies suggest that improved classroom quality during early childhood may be beneficial for long-term growth in self-regulatory skills. However, much of the existing literature focuses on self-regulation during early childhood, with longitudinal studies often being limited to the effects of early childhood interventions.

Research has yet to test direct longitudinal associations between preschool classroom quality and cognitive self-regulatory processes during middle childhood. If preschoolers' self-regulation positively predicts their cognitive self-regulatory skills during middle childhood (Li-Grining, 2019), it could be that the benefits of early childhood education quality on preschoolers' self-regulation extend to cognitive self-regulation in middle childhood. This dissertation tests whether this is the case.

Foundational Skills for Critical Consciousness Development

In turn, older children's prosocial behavior and cognitive self-regulation may function as precursors to teens' critical consciousness. Both civic engagement and critical consciousness fall under the sociopolitical domain, and theoretical models depict prosocial and cognitive self-regulation skills as developmental precursors to civic engagement, as well as social justice oriented attitudes and actions (Astuto & Ruck, 2010; Carlo et al., 2022; Davis et al., 2021; Metzger et al., 2018; Wray-Lake & Ballard, 2023). Yet, the existing literature has yet to examine longitudinal linkages from prosocial skills and cognitive self-regulation to critical consciousness.

Prosocial Behavior During Middle Childhood to Teens' Critical Consciousness

During adolescence, aspects of community engagement, such as service and volunteering, are common ways to engage in prosocial behavior, as they are conducted in the context of wanting to help others (Eisenberg et al., 2013). Such findings persist into adulthood

(Eisenberg et al., 1999; Eisenberg et al., 2013). For example, in their longitudinal study, Eisenberg and colleagues (2013) followed participants' prosocial tendencies from preschool through adulthood. Findings indicated that self-reported helping behaviors at the ages of 9 and 13 were significantly predictive of greater prosocial actions, such as volunteering, when participants were in their late 20s and early 30s. Notably, a small but growing literature suggests that community engagement is positively associated with critical consciousness during adolescence (Fegley et al., 2006; Heberle et al., 2020; Roy et al., 2019).

In line with this, prosocial development scholars have recently theorized the prosocial roots of actions that mitigate social inequities (see Carlo et al., 2022; Davis et al., 2021), providing strength-based approaches to addressing social injustice and inequity (e.g., health, economic, educational, and justice system disparities). Commonly engaging in prosocial actions may lead youth from marginalized communities on pathways to developing deep social connections and integrating with individuals of diverse identities (Davis et al., 2021). Through these connections, youth engaging in prosocial behaviors may thereby positively impact others interpersonally, as well as in a broader societal manner via civic engagement (Carlo et al., 2022).

More specifically, some empirical studies suggest that greater prosocial behaviors are linked with higher critical consciousness and civic engagement among teens (Fegley et al., 2006; Kanacri et al., 2014; Metzger et al., 2018; Roy et al., 2019; Taylor et al., 2019). Civic engagement is similar to critical consciousness, but much of the civic engagement literature does not focus on aspects of sociopolitical adjustment that challenge systemic social inequities. Rather, extant studies on civic engagement examine behaviors and values that may inadvertently maintain the status quo (e.g., news consumption; Watts et al., 2011). Given the lack of studies

predicting adolescent critical consciousness from prosocial behavior during childhood, this dissertation also turns to existing research on specific civic engagement behaviors (e.g., protesting) that map onto dimensions of critical consciousness (i.e., critical reflection, sociopolitical efficacy, and critical action).

For example, results from a qualitative study by Fegley and colleagues (2006) indicated that among Black and Latino children and teens from under-resourced backgrounds, participating in a community service project was positively associated with critical reflection over a five-week period. It could be that by engaging in community service projects, marginalized young people may actively face and work towards finding solutions to issues within their communities. Put differently, such projects offer opportunities to engage in critical reflection and to challenge underlying systemic inequities. Furthermore, in their study with predominantly Black and Latino adolescents, Roy and colleagues (2019) found that volunteering for organizations within one's community was cross-sectionally associated with greater critical action. In short, prosocial behavior in the form of volunteer service within one's community may promote critical reflection and critical action among marginalized adolescents. Although these studies provide evidence for concurrent associations between prosocial behavior and critical reflection and action, it is still not known how prosocial behaviors during childhood longitudinally shape all three dimensions of critical consciousness during adolescence.

In addition, a handful of existing studies linking prosocial behaviors to civic engagement suggests that childhood prosocial skills may serve as a foundation for teens' critical consciousness (Kanacri et al., 2014; Metzger et al., 2018; Taylor et al., 2019). In their cross-sectional study with students between the ages of 8 to 20 years-old, Metzger and colleagues

(2018) examined how prosocial skills intersect with various components of civic engagement during middle childhood and adolescence. Among all participants, informal helping was positively associated with aspects of civic engagement, including having the social responsibility to consider the rights of others, political beliefs of keeping up with and participating in current events, and civic skills that address sociopolitical issues. These aspects of civic engagement appear to reflect critical consciousness. Although this past research was cross-sectional in nature, it could be that by engaging in prosocial behavior during childhood, children may be developing foundational skills for later critical social analysis and sociopolitical efficacy.

Similarly, in a longitudinal study with adolescents from areas with high political conflict in Northern Ireland, Taylor and colleagues (2019) examined ways in which prosocial behaviors promoted teens' political civic engagement (i.e., signing petitions and boycotting products). Findings indicated that higher levels of prosocial behaviors during middle childhood significantly predicted greater political civic engagement later during adolescence. The authors indicated that prosocial behaviors may have particularly long-term benefits for civic engagement among youth who are tasked with rebuilding their society after facing years of sociopolitical conflict. Similar to critical action, political civic engagement refers to behaviors that challenge the status quo (e.g., protesting). As such, it could be that the development of prosocial skills from an earlier age may be important for engaging in critical action among youth facing systemic oppressive forces, where youth have the goal of making the world a more just place.

Overall, these cross-sectional and longitudinal studies provide insight into ways in which childhood prosocial skills are linked with civic engagement and critical consciousness. More specifically, children and teens' prosocial behaviors have been found to be concurrently

associated with critical reflection and action, as well as aspects of civic engagement which reflect elements of critical reflection and sociopolitical efficacy. Furthermore, only one study has shown children's prosocial skills to be longitudinally linked with civic actions that challenge institutions in power (i.e., critical action). However, studies have yet to empirically examine how childhood prosocial behaviors may shape later critical reflection and political self-efficacy. Lastly, longitudinal research has yet to determine whether there are childhood prosocial foundations for all three components of critical consciousness among Black and Latino teens within the U.S.

While carrying out prosocial behaviors, children hold an outward perspective where they recognize the need for help in the world around them, and children actively engage in providing such help. In this way, engaging in prosocial behaviors during childhood may serve as a foundation for recognizing and acting against systemic oppressive forces during adolescence (Carlo et al., 2022). Therefore, this study aims to test for longitudinal linkages from Black and Latino children's prosocial behaviors to their critical reflection, sociopolitical efficacy, and critical action during adolescence.

Cognitive Self-Regulation During Middle Childhood to Teens' Critical Consciousness

Unlike the literature review above on prosocial behavior, cognitive self-regulation has not been empirically studied as a predictor of civic engagement or critical consciousness. Civic engagement scholars have begun to discuss ways in which self-regulation may shape later sociopolitical development (e.g., Wray-Lake & Syvertson, 2011), but linkages between cognitive self-regulation during middle childhood to civic engagement have yet to be explicitly tested. For example, Astuto and Ruck (2017) published findings framed as evidence of kindergarteners

being on pathways toward civic engagement, but the scholars did not directly predict civic engagement nor critical consciousness from executive function. Given that extracurricular activities have predicted civic behaviors later in life, Astuto and Ruck (2017) examined linkages between under-resourced kindergarteners' executive functioning (i.e., attention and problem solving) and their participation in extracurricular activities during the 8th grade (e.g., student government, sports, music and art clubs). Findings from this past study indicated that greater participation in drama, music clubs, and sports, as well as more time spent on extracurricular activities during the 8th grade were predicted by executive functioning skills during kindergarten.

Similarly, within the critical consciousness literature, linkages from self-regulation to critical consciousness have yet to be empirically tested. However, qualitative researchers have discussed ways in which cognitive factors may be involved in critical consciousness. In a recent qualitative study conducted with 12 adult Black Lives Matter activists, Mosley et al. (2021) found "*cognitive growth*" to be a theme in interviews with participants. More specifically, the participants explained that they needed to draw upon their cognitive skills when reflecting on anti-Black racism as a systemic issue, simultaneously making connections to their past personal experiences, and in planning their responses to injustice. Although Mosley and colleagues (2021) did not empirically test for linkages from cognitive self-regulatory skills to critical consciousness, their results suggest that cognitive factors may play a role in critical reflection and sociopolitical efficacy.

In sum, much more is known about linkages between prosocial behavior and critical consciousness compared to the association between cognitive self-regulation and critical consciousness. There is a substantial gap in empirical research on the direct associations between

cognitive self-regulatory skills and all three components of critical consciousness. Moreover, this linkage has yet to be tested longitudinally from middle childhood to adolescence. That said, one civic engagement study suggests that early self-regulatory processes set children on a trajectory toward civic engagement. In addition, one qualitative study suggests that individuals draw upon cognitive functions when engaging in thoughts and behaviors related to critical reflection and sociopolitical efficacy. Still, it is unclear what specific types of cognitive skills are utilized when engaging in critical reflection and sociopolitical efficacy, and whether critical action also depends on such cognitive competencies.

Given these gaps in the existing literature, this dissertation would be the first to examine ways in which cognitive self-regulation during middle childhood may predict teens' critical reflection, sociopolitical efficacy, and critical action. If middle childhood cognitive self-regulation and prosocial skills are predictive of adolescent critical consciousness, and if preschool classroom quality shapes children's prosocial and cognitive self-regulatory skills, then it is possible that there are early childhood environmental factors that serve as foundations of adolescent critical consciousness. As such, this study discusses prosocial behavior and cognitive self-regulation as potential mediators in pathways from preschool classroom quality to critical consciousness during adolescence.

Childhood Prosocial and Cognitive Self-Regulatory Skills as Simultaneous Mediators

How might prosocial behaviors and cognitive self-regulation play a role in potential pathways from preschool classroom quality to critical consciousness during adolescence? Certainly, mediation studies have been conducted in the critical consciousness literature, however critical consciousness is usually examined as a predictor of well-being among

adolescents and young adults (see Heberle et al., 2020 for a review). Yet, the mediating roles of self-regulation and prosocial behaviors have been explored in the classroom quality literature (McCoy et al., 2019; Son & Chang, 2018; Weidermann et al., 2020). Additionally, the mediating roles of prosocial behaviors and self-regulation have been investigated in the civic engagement literature (Holbein, 2017; Kanacri et al., 2014; Kitchens & Gormley, 2023; Plummer et al., 2022).

First, past research has examined self-regulatory and prosocial processes to explain the mechanisms by which early childhood classroom quality shapes later academic, cognitive, and social functioning (McCoy et al., 2019; Son & Chang, 2018; Weidermann et al, 2020). For example, Son and Chang (2018) examined how preschool classroom quality predicted kindergarteners' social skills and academic achievement, through their self-regulation (e.g., attention, delay of gratification). Kindergarteners' social skills were defined as having higher social competence (i.e., positive interactions with peers) and fewer behavior problems, and academic achievement was captured with language, literacy, and math skills. Findings indicated that preschoolers' self-regulation served as a significant mediator in the association between preschool classroom quality and children's early school academic and social outcomes.

Another study tested the mediating role of prosocial behaviors. Weidermann et al. (2020) implemented a 3-month long intervention promoting classroom management (e.g., effective praise, consistent consequences) in kindergarten classrooms with mostly under-resourced and racially minoritized students. Findings indicated that the development of prosocial skills positively and significantly mediated the effects of the intervention on children's academic achievement in the third grade. According to the authors, proactive classroom management (i.e.,

clear expectations, schedules, precorrection of children's behavior) provides explicit instructions on how to engage prosocially with peers and teachers in the classroom, and such positive classroom interactions help foster school-aged children's academic success. Given that proactive classroom management is a dimension of higher classroom quality, these past findings suggest that prosocial skills may help explain why better classroom quality during early childhood promotes children's later well-being.

Second, some existing literature suggests that prosocial behaviors and self-regulation may play mediating roles in pathways from early childhood educational settings to civic engagement (Holbein, 2017; Kitchens & Gormley, 2023). For example, Holbein (2017) examined the mechanism by which an intervention focused on classroom management practices in the first grade predicted registering to vote and subsequently voting among Black adults from under-resourced neighborhoods. Findings from their study indicated that children's psychosocial skills (e.g., prosocial behavior, attention control, and delay of gratification) largely explained the effects of the intervention on voting behaviors. However, it should be noted that Holbein (2017) did not conduct significance tests for mediation, and therefore indicated that findings from their study should be acknowledged as descriptive. In addition, in Kitchens and Gormley's (2023) study with predominantly Black and Latino young adults, children's self-regulation skills during kindergarten significantly mediated the link from attending preschool to voting after turning 18 years old. Although Holbein (2017) and Kitchens and Gormley (2023) do not focus on aspects of civic engagement that challenge the status quo in a way that critically conscious behaviors might, these studies highlight prosocial and cognitive self-regulatory skills as potential mediators for the pathway from preschool classroom quality to Black and Latino teens' sociopolitical actions.

Therefore, these findings may provide insight into ways in which prosocial and cognitive self-regulatory skills may serve as mediators when examining longitudinal links from early childhood educational settings to critical action.

In line with this, some studies have found prosocial behavior to be a mediator when testing routes from children's environments to aspects of civic engagement that overlap with critical consciousness (Kanacri et al., 2014; Plummer et al., 2022). For example, in a study with Italian emerging adults, Kanacri and colleagues (2014) examined how prosocial behaviors may mediate the link from family dynamics during late adolescence to civic involvement during early adulthood. Findings indicated that while transitioning to into early adulthood, teens' ability to negotiate with their parents without losing autonomy (i.e., filial self-efficacy) was positively linked with their development of prosocial skills, which was in turn related to their civic involvement. In other words, teens who actively participated in family discussions were more likely to engage in cooperative practices (i.e., prosocial behavior) within the home environment, which was then predictive of their civic involvement (e.g., joining cultural and student associations, signing a petition, donating to a political campaign). Notably, their measure of civic involvement is similar to the critical action dimension of critical consciousness.

Overall, perhaps having more structured and high quality early learning environments encourages children to pay attention in class and engage in helping behaviors with their teachers and peers, resulting in a more harmonious setting that improves students' learning (Son & Chang, 2018; Weidermann et al., 2020). As such, both cognitive self-regulation and prosocial skills may help explain why high quality classroom settings promote positive social, cognitive, and academic outcomes during childhood. Furthermore, it could be that prosocial behavior and

cognitive self-regulation serve as mediators when examining linkages from youths' environmental contexts to the critical action facet of critical consciousness.

Notably, children's self-regulation and prosocial skills have been found to be significantly linked with one another (Fabes et al., 1999; Hoffman, 2008). In other words, advances in cognitive self-regulation may facilitate prosocial behavior, and engaging in prosocial behaviors may further strengthen self-regulatory skills. Given the expected correlation between children's prosocial behaviors and cognitive self-regulation, it could be that they function as simultaneous mediators (Preacher & Hayes, 2008; Schoemann et al., 2017) in the link between preschool classroom quality and teens' critical consciousness.

In sum, it is unknown whether prosocial behavior explains the link from environmental settings to critical reflection and sociopolitical efficacy. Similarly, research has yet to examine whether cognitive self-regulation mediates the association from environmental contexts to critical reflection and sociopolitical efficacy. Lastly, there is a dearth of extant literature on whether both prosocial behaviors and cognitive self-regulation during middle childhood simultaneously explain the linkages from environmental contexts to adolescents' critical consciousness.

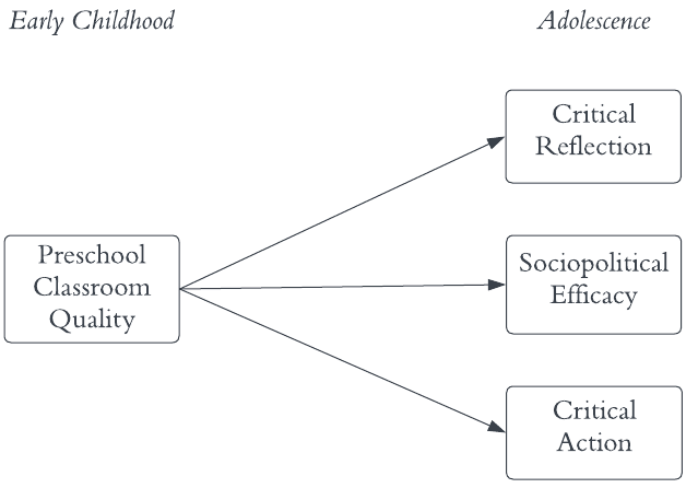
As such, this dissertation aims to test both prosocial skills and cognitive self- regulation as simultaneous mediators when examining associations from classroom quality to critical reflection, sociopolitical efficacy, and critical action. Moreover, this research would be the first to this pathway across three developmental time periods, where middle childhood prosocial and cognitive self-regulatory skills would be investigated as simultaneous mediators in the link from preschool classroom quality to teens' sociopolitical development. By doing so, this dissertation

may provide some insight into the way in which preschool plays a long-term role in marginalized youth understanding inequities in the world, believing that they can reduce such disparities, and taking part in creating a more equitable and just world for people of different backgrounds.

Research Questions and Hypotheses

Based on the literature review above, the present study aims to examine linkages from early childhood classroom quality to teens' critical reflection, sociopolitical efficacy, and critical action, simultaneously through their prosocial behaviors and cognitive self-regulation during middle childhood. As such, the following research questions and hypotheses guide this dissertation:

Figure 1. Preschool Classroom Quality Predicting Teens' Critical Consciousness

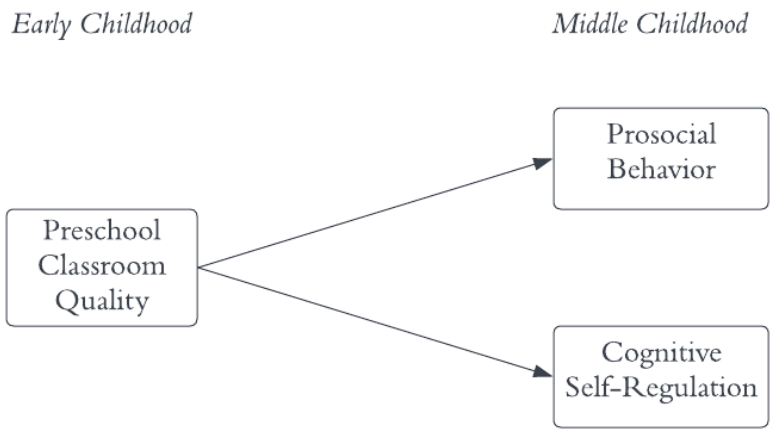


1) Is early childhood classroom quality longitudinally linked to three indicators of teens' critical consciousness (i.e., critical reflection, sociopolitical efficacy, and critical action; see Figure 1)?

Hypothesis 1

This study hypothesizes that young children's preschool classroom quality will be positively associated with their critical reflection, sociopolitical efficacy, and critical action during adolescence.

Figure 2. Preschool Classroom Quality Predicting Prosocial Behavior and Cognitive Self-Regulation in Middle Childhood



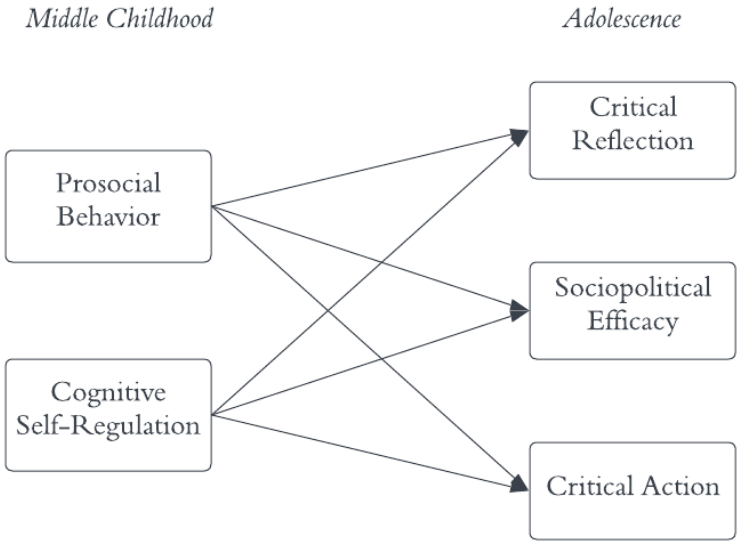
2) Is early childhood classroom quality longitudinally linked to prosocial behavior and cognitive self-regulation during middle childhood (see Figure 2)?

Hypothesis 2

This study hypothesizes that young children's preschool classroom quality will be positively associated with their prosocial behavior and cognitive self-regulation in middle childhood.

3) Are prosocial behaviors and cognitive self-regulation during middle childhood linked with three indicators of teens' critical consciousness (see Figure 3).

Figure 3. Prosocial Behaviors and Cognitive Self-Regulation During Middle Childhood Predicting Teens' Critical Consciousness



Hypothesis 3a

It is hypothesized that prosocial behaviors during middle childhood will be positively associated with all three components of Black and Latino teens' critical consciousness.

Hypothesis 3b

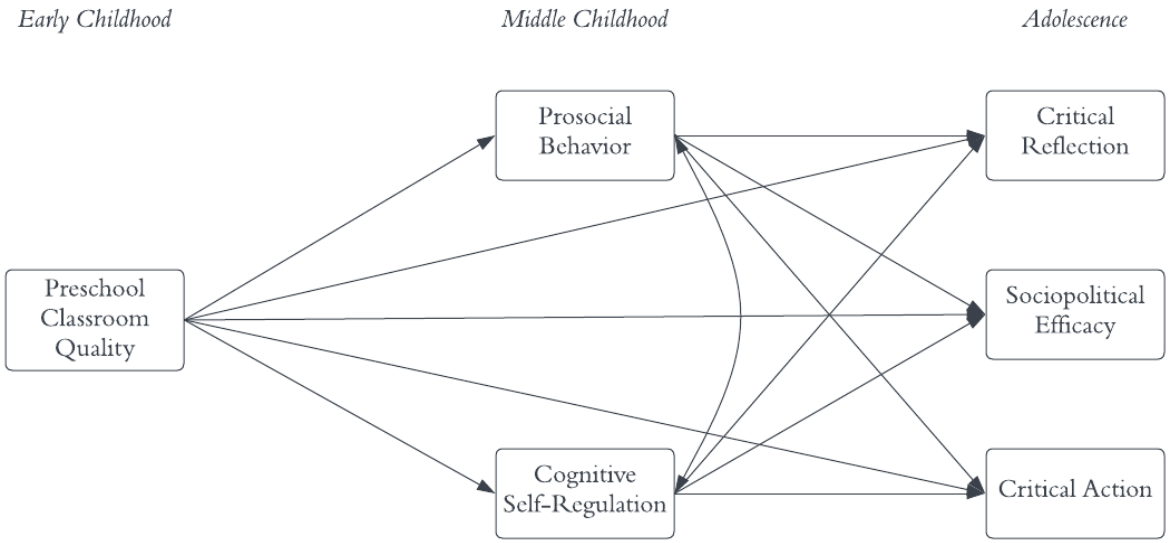
It is expected that cognitive self-regulation during middle childhood will have positive linkages with all three components of critical consciousness during adolescence.

4) Are the links between early childhood classroom quality and three different indicators of teens' critical consciousness mediated by both prosocial behaviors and cognitive self-regulation during middle childhood (see Figure 4)?

Hypothesis 4a

It is expected that prosocial behavior during middle childhood will mediate linkages from preschool classroom quality to critical consciousness during adolescence.

Figure 4. Mediation of the Link Between Preschool Classroom Quality and Teens' Critical Consciousness by Prosocial Behavior and Cognitive Self-Regulation During Middle Childhood



Hypothesis 4b

It is hypothesized that cognitive self-regulation will mediate associations between preschool classroom quality and teens' critical consciousness.

Hypothesis 4c

Lastly, it is expected that children's prosocial behavior and cognitive self-regulation will simultaneously mediate linkages from preschool classroom quality to teens' critical consciousness (i.e., critical reflection, sociopolitical efficacy, and critical action).

CHAPTER TWO

METHODS

Participants

Data for the present study were drawn from a larger study, the Chicago School Readiness Project (CSRP), in which 602 participants were recruited between 2004 and 2006 while they were preschoolers attending Head Start programs in high-poverty Chicago neighborhoods. Of the Head Start classrooms enrolled in the CSRP, approximately 66% of children identified as Black, 26% were Latino (Raver et al., 2011). The remaining approximate 8% identified as White, Asian, and multiracial, and were not included in the present study in order to focus on Black and Latino youth. While in preschool, children participated in a randomized intervention trial targeting their socioemotional growth (for details, see Raver et al., 2008). The present study is non-experimental and does not examine intervention impacts. Rather, this dissertation focuses on baseline classroom quality as a predictor, controlling for treatment status.

Participants in the present study were recruited in two cohorts, with the first one participating in the academic year of 2004-2005, and the second cohort in 2005-2006. After executing the intervention, researchers continued to collect data from participants, as well as their parents, teachers, and schools, through early childhood, middle childhood, and adolescence. In addition to observations and surveys conducted during preschool (*Wave 1*; $N = 558$), the present study utilizes longitudinal data collected during the 2009-2010 academic year (i.e.,

third/fourth grades; *Wave 2*; *N* = 398) and the 2016-2017 academic year (i.e., tenth/eleventh grades; *Wave 3*; *N* = 394. The analytic sample for the present study consists of 250 Black and Latino CSRP participants with complete data on predictor variables collected at Wave 1, as well as mediator and outcome variables collected at Waves 2 and 3. Demographic characteristics of participants are listed in Table 1.

Most participants were reported to be female and Black by a parent at Wave 1. On average, participants were approximately 4 years old (range = 3.10 – 5.10 years) at the Wave 1 assessment, almost 9 years old (range = 7.57 – 9.79 years) at the Wave 2 assessment, and approximately 16 years old (range = 14.56 – 17.78 years) at the Wave 3 assessment. Furthermore, Head Start is a federally funded program that provides early childhood education to children in under-resourced households (HHS, 2021). Given that Latino and Black families are disproportionately represented among under-resourced households, there is also disproportionate representation of Latino and Black children in Head Start programs (HHS, 2021). At Wave 1 of data collection, participants' average income-to-needs ratio (INR) reflected that most of the sample lived in households below the national poverty line when they were young children (i.e., INR equal to or less than 1). While attending Head Start, approximately half of the sample was recruited into the first CSRP cohort, and half were assigned to the CSRP treatment group. In addition, supplementary information regarding parents' education and participants' family structure are listed in Table 1.

Table 1. Descriptive Statistics on Participant, Classroom, and Family Demographic Characteristics

Variable	*M* (or %)	SD
Age		
Wave 1	4.19	0.54
Wave 2	8.75	0.54
Wave 3	16.17	0.74
Gender		
Female	56.40%	
Male	43.60%	
Race/Ethnicity		
Latino	22.80%	
Black	77.20%	
Income-to-Needs Ratio (INR)	0.67	0.55
CSRP Cohort		
Cohort 1	48.52%	
Cohort 2	52.00%	
CSRP Treatment Status		
Control	50.00%	
Treatment	50.00%	
Parent Education		
Less than 12th Grade	20.50%	
High School Diploma or G.E.D.	39.70%	
Some College	24.40%	
Associates Degree or More	15.40%	
Number of People in Household		
Children	2.79	1.38
Adults	1.82	0.87
Parent Marital Status		
Single	60.60%	
Married	22.90%	
Living With a Partner (Not Married)	8.80%	
Divorced, Separated, or Widowed	7.70%	

Note. Information about participants' gender, race/ethnicity, INR, parents' education, household size, and parents' marital status reflect what were reported by parents during Wave 1.

Attrition Analyses

Furthermore, the 250 cases in the analytic sample for the present study were compared to the 308 cases not included in the analytic sample due to attrition (Tabachnik & Fidell, 2013). Two-sample t-tests were conducted to examine missing data patterns among participants included in the sample and participants who were not included in the sample based on continuous demographic characteristics (i.e., age and INR) as well as participants' competencies measured during early childhood, middle childhood, and adolescence. Chi-square tests were employed to examine differences in categorical demographic characteristics (i.e., gender, race/ethnicity, CSRP cohort, and CSRP treatment status) across participants who were and were not included in the sample. Results from attrition analyses comparing these two groups did not find statistical differences between them ($p > .05$) in terms of age, gender, INR, and CSRP treatment status, nor any competencies during early childhood, middle childhood, and adolescence. There were statistically significant missing data patterns between groups in terms of race/ethnicity and CSRP cohort ($p < .05$). Latino participants and children in the first cohort were more likely to not have complete sets of data compared to Black participants and children in the second cohort, respectively. However, all demographic characteristics, including race/ethnicity and CSRP cohort, will be included as control variables in all models. As such, participants with missing data were determined to be missing at random (MAR), and full information maximum likelihood (FIML) was employed to address remaining missing data.

Procedure

Children and their families were recruited between 2004-2006 to participate in a randomized intervention trial targeting the improvement of preschoolers' self-regulation in

Chicago Head Start programs, as a way to promote their school readiness. Preschool sites were recruited on the basis of the following inclusion criteria: (1) must be a certified Head Start center that receives federal funding; (2) have at least two or more classrooms that offer programs for the full day; and (3) be located in a high-poverty neighborhood in Chicago. Neighborhoods were excluded from recruitment if they identified with the following exclusionary criteria: (1) below 40% poverty rates among families with children below the age of 5; (2) less than four hundred children eligible for Head Start; (3) at least a 15% decrease in under-resourced families due to gentrification and/or demolition by the Chicago Housing Authority; (4) crime rate less than the median level; and (5) ethnic composition that does not mirror other under-resourced neighborhoods in Chicago. Next, CSRP researchers contacted and met with administrators and staff at eligible sites to explain the project and to offer the opportunity to participate. By the end of the recruitment process, 35 Head Start classrooms belonging to 18 sites across 7 Chicago neighborhoods were enrolled in the CSRP.

Measures for the present study include interviews with parents, reports from children's teachers, direct observations of children and their classrooms, and self-reports from teens. Prior to each wave of data collection, informed consent was obtained from parents and teachers. Additionally, children provided assent to participate. Staff, parents, and youth were compensated for their participation after each assessment.

First, Wave 1 was carried out during the fall of 2004 for the first cohort and the fall of 2005 for the second cohort. Half of the participants were assigned to the control group, and the other half was assigned to the treatment group. As such, it should be noted that data at Wave 1 were collected at the beginning of the school year for both cohorts, and prior to the start of the

CSRP intervention. Researchers who were blind to the intervention status of each classroom conducted observations of classroom quality using the Classroom Assessment Scoring System (CLASS; La Paro et al., 2004). There were twelve trained observers, all of whom were trained by one of the primary authors of the CLASS. Observers all identified as female, and were either graduate students or post-baccalaureate research staff. Furthermore, half of the observers identified as Black and the other half identified as either White or Asian, and therefore matched the race of most of the children being observed at least half of the time. Observers were present in each classroom for one day, and observations were completed on-site throughout three sessions during the day of observation. These three sessions included breakfast, "circle time/free play," and lunch. At least three fourths of the observations were double-coded. Furthermore, direct assessments of children's self-regulation were conducted following the protocol of the Preschool Self-Regulation Assessment (PSRA; Smith-Donald et al., 2007) and teachers completed surveys on their students' social skills. Lastly, parents provided information regarding their children's and family's demographic characteristics.

Next, in Wave 2, teachers completed reports on their students' prosocial behaviors, as well as their self-regulation. Wave 2 was carried out during the Fall of 2009, while children were on average in the third or fourth grades. Lastly, Wave 3 of data collection took place in the spring of 2017, when participants were on average attending tenth or eleventh grade. Trained researchers collected data from participants at schools, including teens' self-reports of critical consciousness, as part of a larger computerized survey.

Measures

Wave 1: Early Childhood

Classroom Quality

Classroom quality was captured using data collected while participants attended Head Start (Wave 1) with four scales from the Classroom Assessment Scoring System (CLASS; La Paro et al., 2004; Pianta, 2002). The scales included in the CLASS were designed to assess the quality of teacher-student interactions related to classroom socioemotional climate (e.g., teacher responsiveness and sensitivity towards students) within the Pre-K to Grade 3 classroom environment (Pianta, 2002). Data were aggregated into four indicators of classroom quality: positive climate, negative climate, teacher sensitivity, and behavior management.

To assess positive climate within the classroom, observers reflected on interactions that had a positive social and emotional tone in the classroom, such as mutual respect and enthusiasm, between teachers and students, as well as among students. For negative climate, observers considered interactions that had a negative social and emotional tone in the classroom, such as anger and harshness. Furthermore, to examine teacher sensitivity, observers examined how responsive the teacher was to children in their interactions, such as being reassuring and comforting with children, with their individual academic and socioemotional skills in mind. Lastly, to capture behavior management, observers referred to the teachers' abilities to prevent and redirect children's problem behaviors, including clearly communicating expectations for children's behavior in the classroom and praise for desirable behaviors.

For each type of observation, trained research assistants reported on their observations of classroom quality based on a global, 7-point Likert scale, with scores of 1 and 2 describing items

as being observed “at the low end,” 3 to 5 describing items as being observed “in the mid-range,” and 6 and 7 describing items as being observed “at the high end.” Scores “at the low end” suggested virtually no evidence of the interaction being observed, scores “in the mid-range” indicated general evidence of the interaction of interest, and scores “at the high end” were given when there was strong evidence to suggest the existence of the interaction occurring. Three-fourths of the observations were conducted with two research assistants, and had an acceptable inter-rater reliability (positive climate, $\alpha = 0.82$; negative climate, $\alpha = 0.70$; teacher sensitivity $\alpha = 0.77$; behavior management, $\alpha = .66$; Raver et al., 2008). Confirmatory factor analyses confirmed that it was appropriate to include all four items (i.e., positive climate, negative climate, teacher sensitivity, and behavior management) when computing the mean score of the socio-emotional climate CLASS subscale. Furthermore, among participants in the present sample, the socio-emotional climate subscale of the CLASS had a high internal reliability ($\alpha = .93$).

Children’s Early Competencies

Although this dissertation focused on prosocial behavior and cognitive self-regulation in middle childhood as mediators and predictors of teens’ critical consciousness, this study included prosocial behavior and self-regulation during early childhood as control variables in order to take into account the developmental origins of older children’s prosocial behavior and self-regulation. Prosocial behavior during Head Start (Wave 1) was accounted for using the 10-item Social Competence subscale of the Social Competence and Behavior Evaluation Scale (SCBE-30; LaFreniere & Dumas, 1996). The Social Competence subscale of the SCBE-30 captured young children’s prosocial actions, such as cooperating, comforting, sharing, and helping others.

Example items include “Comforts or assists another child in difficulty,” “Helps with everyday tasks,” “Cooperates with other children in group activities,” and “Shares toys with other children.” Teachers indicated how often children engaged in prosocial actions on a scale of 1 “Never” to 6 “Always.” Among CSRP participants, this measure had high internal reliability (α = .88; Smith-Donald et al., 2007).

Next, executive functioning during early childhood (Wave 1) was included as a control variable. Executive function was captured using two direct assessments from the Preschool Self-Regulation Assessment (PSRA; Smith-Donald et al., 2007). The two tasks included the balance beam task (Murray & Kochanska, 2000) and the pencil tap task (Blair, 2002; Diamond & Taylor, 1996). Mean standardized scores for both tasks were computed to determine lower-level cognitive self-regulatory skills during early childhood (e.g., working memory, attention).

As mentioned above, this dissertation also took into account early behavioral regulation, which further adds to the rigor of the models tested here. Effortful control (i.e., impulsivity) was directly assessed using four tasks from the PSRA (Smith-Donald et al., 2007), including the toy wrap, toy wait, and snack delay/tongue tasks (see Murray & Kochanska, 2002). The scores from these tasks were first standardized and then averaged to determine lower-level behavior self-regulatory skills during early childhood. Reliability for these measures was found to be high among the CSRP sample (executive function, α = .86; effortful control, α = .77; Li-Grining, 2019).

Wave 2: Middle Childhood

Prosocial Behavior

The CSRP collected information regarding prosocial behaviors from participants' teachers at Wave 2, during middle childhood (i.e., third/fourth grades). Specifically, prosocial behavior from Wave 2 was assessed using the 10-item Assertion subscale of the Social Skills domain of the Social Skills Rating System (SSRS; Gresham & Elliot, 1990) for elementary school students (i.e., grades K-6). Notably the SSRS includes a subscale labeled "Assertion" and one labeled "Cooperation." The Assertion subscale was utilized instead of the Cooperation subscale because the Cooperation subscale includes questions that captured the ability to comply with instructions, such as "follows your directions." However, the Assertion subscale includes more items that conceptually reflect prosocial actions, such as "volunteers to help peers with classroom task" (e.g., helping; Eisenberg et al., 2006). Participants' teachers reported on how often students displayed such prosocial behaviors on a Likert scale of 1 "never" to 3 "very often." Among the CSRP sample, the Assertion subscale of the SSRS had a high internal reliability ($\alpha = .92$).

Self-Regulation

Cognitive Self-Regulation. In order to capture children's cognitive self-regulatory skills, questions from both the Barratt Impulsiveness Scale (version 11; BIS-11; Patton et al., 1995) and the Behavior Rating Inventory of Executive Functioning (BRIEF; Gioia et al., 2000) were collected during Wave 2. Using items from the BIS-11 and BRIEF, prior analyses with Wave 2 data conducted confirmatory factor analyses. Consistent with terms utilized in the self-regulation

literature (Nigg, 2017), results from the confirmatory analysis reflected two composites: cognitive self-regulation and behavioral self-regulation.

The present study utilized the cognitive self-regulation aggregate as a main variable of interest. This composite includes 9 items from the BIS-11 and 10 items from the BRIEF. Items included in the BIS-11 capture children's attention and planning (e.g., "Child plans tasks carefully"). Teachers responded to each statement using a scale of 1 "rarely/never" to 4 "almost always/always." Additionally, questions from the BRIEF assessed children's working memory and inhibitory control (e.g., "When given three things to do, remembers only the first or last"). Teachers indicated how often children had trouble with exhibiting certain skills on a scale of 1 "never" to 3 "often." Furthermore, among participants in the CSRP, the cognitive self-regulation aggregate had high reliability ($\alpha = .97$; Li-Grining et al., 2019).

Behavioral Self-Regulation. Again, given the complex nature of self-regulation (e.g., Li-Grining et al., 2019), behavioral self-regulation during middle childhood was proposed to be included as a control variable. Behavioral self-regulation was captured using teacher reports of 7 items from the BIS-11 (Patton et al., 1995) and 10 items from the BRIEF (Gioia et al., 2000). Teachers responded to questions regarding how often students behaved impulsively (e.g., "Gets out of seat at the wrong times") on a scale of 1 "rarely/never" to 4 "almost always/always" for items on the BIS-11 and 1 "never" to 3 "often" for items on the BRIEF. The BIS-11 and BRIEF scores were standardized and aggregated into a composite middle childhood behavioral self-regulation score. Among participants in the CSRP, the behavioral self-regulation aggregate had high reliability ($\alpha = .97$; Li-Grining et al., 2019).

Wave 3: Adolescence

Critical Consciousness

Following both classic and contemporary conceptual models by Freire (1973) and Watts et al. (2011), three aspects of critical consciousness were measured during Wave 3 using 12 items. These three components included perceived inequality (i.e., critical reflection), sociopolitical efficacy, and critical action). Two sources were utilized to measure critical consciousness, including the Critical Consciousness Scale (CCS; Diemer et al., 2017) to capture perceived inequality and critical action, as well as items similar to those used by Diemer and Rapa (2016) to assess sociopolitical efficacy.

Critical Reflection. Critical reflection was examined using three items from the Perceived Inequality subscale of the Critical Consciousness Scale (CCS; Diemer et al., 2017). The perceived inequality subscale captures critical reflection among teens, including their awareness of and ability to analyze inequities within their societal infrastructures, such as oppression, prejudice, and discrimination related to race, gender, or class (e.g., "Certain racial or ethnic groups have fewer chances of getting ahead" and "Poor children have fewer chances to get a good high school education"). Participants indicated how much they agreed to each statement on a Likert scale ranging from 1 "strongly disagree" to 5 "strongly agree." Furthermore, among participants in the CSRP, the perceived inequity scale had an acceptable internal reliability ($\alpha = .87$; Uriostegui et al., 2020).

Sociopolitical Efficacy. Sociopolitical efficacy was measured with four items that are similar to those used by Diemer and Rapa (2016). In Diemer and Rapa's (2016) study, internal political efficacy was originally a latent construct that emerged from items that captured

marginalized adolescents' understanding of their own capacity to participate in political processes. In the present study, the sociopolitical efficacy subscale was modified to encapsulate the political self-efficacy aspect of critical consciousness, including youths' beliefs in their ability to enact social change and to make the world a better place (Seider et al., 2020; Uriostegui et al., 2020). Example items included, "I am motivated to try to end racism and discrimination," and "I can make a difference in my community." Participants reported on how much they agreed with each statement on a 5-point Likert scale that ranged from 1 "strongly disagree" to 5 "strongly agree." Internal reliability for the sociopolitical efficacy scale was found to be acceptable among the CSRP sample ($\alpha = .83$; Uriostegui et al., 2020).

Critical Action. Lastly, teens' critical action was measured using five items from the Sociopolitical Action subscale of the CCS (Diemer et al., 2017). Youth indicated their level of involvement with actions related to politics, sociopolitical issues, and current events. Example items include, "Have you worked in a political campaign,' "Have you posted on social media about a social justice or political issue," and "Have you joined in a protest march, political demonstration, or political meeting?" Responses to the items were changed from a 5-point Likert scale, similar to the Perceived Inequality subscale, to only having the option to respond either "yes" or "no" to questions on whether participants engaged in specific actions during the last six months. Items were summed to determine the number of participants' recent political actions. This type of measurement of critical action is congruent with previous studies involving Black and Latino youth (Roy et al., 2019; Uriostegui et al., 2020).

Demographic Characteristics

Background characteristics and competencies may have linkages with children's prosocial skills and cognitive self-regulation, as well as teens' overall well-being (Eisenberg & Fabes, 1998; Eisenberg et al., 2006; Hackman et al., 2015; Hay & Cook, 2007; Rimm-Kaufman et al., 2009). For example, young children's prosocial and cognitive self-regulation skills are often shaped by age (Eisenberg et al., 2006; Huizinga et al., 2006) and gender (Eisenberg & Fabes, 1998; Newton et al., 2014), and socioeconomic status (Hackman et al., 2015; Wiebe et al., 2008). Therefore, the following variables were proposed as covariates.

The present study utilizes parents' and children's demographic information collected during early childhood (Wave 1). At baseline, parents reported on their child's birthdate, gender, and race/ethnicity. Participants' age in years was then computed for Waves 1 – 3, and their age at Wave 3 was included in analyses. Children's gender was dummy coded as 0 for male and 1 for female, and their race/ethnicity was dummy coded using two categories: Latino as 1 and Black (omitted group) as 0. In addition, parents provided information about their income-to-needs ratio (INR; Moore et al., 2009). The INR is a ratio that compares a family's total income to the amount of money required for their household size at that time. To compute the INR, the overall income of each family was divided by the Federal Poverty Threshold for that particular year, and for a family of that size. Furthermore, children's treatment status (0 = control group; 1 = treatment group) in the randomized intervention trial during Head Start, and whether students were enrolled in the first or second preschool cohort (0 = first cohort; 1 = second cohort) were added as control variables.

CHAPTER THREE

RESULTS

Descriptive Statistics and Bivariate Associations

Analytic Approach

Prior to testing the proposed models, descriptive and bivariate analyses were estimated using SPSS Version 27. Descriptive analyses were conducted with all variables included in the present study. Descriptive statistics included the mean, standard deviation, variance, skewness, and kurtosis. Bivariate correlations examined the associations between continuous variables. T-tests were performed to compare mean differences in continuous variables across demographic groups (i.e., gender, race/ethnicity, CSRP cohort, and CSRP treatment status). Details of the analytic plan for multivariate models are presented in the Results section after describing the findings from descriptive and bivariate analyses.

Descriptive Findings

Descriptive statistics of all measures are listed in Table 2. These include participants' preschool classroom quality at Wave 1, prosocial behavior and cognitive self- regulation during middle childhood at Wave 2, as well as critical reflection, sociopolitical efficacy, and critical action during adolescence at Wave 3. In addition, descriptive statistics on participants' early childhood competencies (i.e., prosocial behavior, executive functioning, and effortful control) and behavioral self-regulation during middle childhood are listed in Table 3. Except for executive functioning and effortful control at Wave 1, and critical action at Wave 3, all variables

were well distributed, and skewness and kurtosis values fell within the accepted range ($z < 3.92$; $p > .001$; Tabachnick & Fidell, 2013). Given that critical action is considered a count variable, it was assumed to follow a Poisson distribution, which is a non-normal distribution where the mean and variance are found to be approximately equivalent with one another (Kline, 2016). As recommended by Tabachnick & Fidell (2013), Wave 1 executive functioning data underwent a square root transformation to correct for moderate positive skewness, and Wave 1 effortful control data were transformed using logarithmic transformation to correct for substantial negative skewness.

Table 2. Means, Standard Deviations, and Variance

Variable	*M*	*SD*	Variance	Skewness		Kurtosis	
				Stat.	SE	Stat.	SE
Wave 1 – Early Childhood							
Classroom Quality	4.96	0.89	0.80	-0.49	0.16	-0.11	0.31
Prosocial Behavior	2.57	0.87	0.77	0.14	0.16	-0.56	0.31
Executive Functioning	1.49	0.25	0.06	0.59	0.16	-0.12	0.31
Effortful Control	0.19	0.15	0.02	0.47	0.16	-0.75	0.31
Wave 2 – Middle Childhood							
Prosocial Behavior	1.27	0.43	0.18	-0.02	0.16	-0.84	0.31
Cognitive Self-Regulation	0.62	0.25	0.06	-0.22	0.16	-1.06	0.31
Behavioral Self-Regulation	0.69	0.27	0.07	-0.59	0.16	-0.79	0.31
Wave 3 – Adolescence							
Critical Reflection	3.02	1.06	1.13	-0.18	0.16	-0.56	0.31
Sociopolitical Efficacy	3.94	0.78	0.62	-0.59	0.16	0.48	0.31
Critical Action	1.49	1.33	1.77	0.86	0.16	0.33	0.31

Note. Higher scores on all scales indicate greater preschool classroom quality, early childhood competencies, prosocial behavior and self-regulation during middle childhood, and critical consciousness; Wave 1 executive functioning and effortful control were standardized and transformed; Wave 2 cognitive and behavioral self-regulation scores were standardized.

More specifically, Wave 1 executive functioning and effortful control data were first transformed using a square root transformation to correct for moderate skewness. After conducting a square root transformation, data from the executive functioning measure were no

longer positively skewed, however data from the effortful control measure were still negatively skewed. Therefore, data from the effortful control measure then underwent a logarithmic transformation to correct for substantial negative skewness (see Tabachnick & Fidell, 2013). After using logarithmic transformation to correct the effortful control data, the data were no longer skewed. Next, independent samples t-tests were conducted to examine differences at the mean level for all variables based on participants' gender, race/ethnicity, CSRP cohort, and CSRP treatment status (see Tables 3-6).

Gender

Differences in early childhood prosocial behavior ($t(248) = -4.29$, $p < .01$) and effortful control ($t(248) = -3.45$, $p < .01$) between girls and boys were significant. Girls had significantly higher scores compared to boys on teacher reported prosocial behavior and observed effortful control. There were no significant differences in classroom quality ($t(248) = -1.36$, $p = .17$) nor executive functioning ($t(248) = -1.20$, $p = .23$) at Wave 1 based on gender.

Independent samples t-tests indicated significant gender differences in prosocial behavior ($t(248) = -2.97$, $p < .01$), cognitive self-regulation ($t(248) = -3.51$, $p < .01$), and behavioral self-regulation ($t(248) = -5.09$, $p < .01$) at Wave 2. These findings indicate that girls in the present study tended to be significantly more prosocial, and to have higher cognitive and behavioral self-regulation compared to boys during middle childhood. In addition, independent samples t-tests suggested a significant gender difference in sociopolitical efficacy ($t(248) = -2.17$, $p = .03$) and a marginally significant difference in critical action ($t(248) = -1.83$, $p = .06$). These findings indicate that adolescent girls in the present study had higher sociopolitical efficacy and critical action compared to boys. Findings indicated no significant gender differences in critical reflection ($t(248) = -0.14$, $p = .89$).

Table 3. Means and Standard Deviations Based on Participants' Gender

Variable	Gender			
	Female (N = 141)		Male (N = 109)	
	M	*SD*	*M*	*SD*
Wave 1 – Early Childhood				
Classroom Quality	5.03	0.89	4.88	0.89
Prosocial Behavior	2.78	0.85	2.31	0.84
Executive Functioning	1.51	0.25	1.47	0.24
Effortful Control	0.83	0.14	0.76	0.15
Wave 2 – Middle Childhood				
Prosocial Behavior	1.34	0.41	1.18	0.44
Cognitive Self-Regulation	0.67	0.24	0.56	0.25
Behavioral Self-Regulation	0.76	0.27	0.59	0.27
Wave 3 – Adolescence				
Critical Reflection	3.03	1.11	3.01	1.01
Sociopolitical Efficacy	4.04	0.79	3.82	0.76
Critical Action	1.63	1.33	1.32	1.32

Overall, there were differences based on gender in participants' prosocial behavior and effortful control during early childhood, prosocial behavior, cognitive self-regulation, and behavioral self-regulation during middle childhood, and sociopolitical efficacy and critical action during adolescence. Conversely, there were no significant differences based on gender in participants' classroom quality and executive functioning during early childhood, and critical reflection during adolescence.

Race/Ethnicity

Regarding children's race/ethnicity, there were significant differences in preschool classroom quality ($t(142) = 4.43$, $p < .01$). Latino children were more likely to be enrolled in classrooms that had higher classroom quality compared to Black children. There were no significant differences in early childhood prosocial skills ($t(248) = 1.25$, $p = .21$), executive

functioning ($t(248) = -0.75$, $p = .45$) and effortful control ($t(111) = 1.32$, $p = .18$) based on children's race/ethnicity.

Table 4. Means and Standard Deviations Based on Participants' Race/Ethnicity

Variable	Race/Ethnicity			
	Latino ($N = 57$)		Black ($N = 193$)	
	M	*SD*	*M*	*SD*
Wave 1 – Early Childhood				
Classroom Quality	5.41	0.59	4.86	0.92
Prosocial Behavior	2.70	0.82	2.54	0.89
Executive Functioning	1.47	0.24	1.51	0.25
Effortful Control	0.79	0.16	0.82	0.12
Wave 2 – Middle Childhood				
Prosocial Behavior	1.37	0.45	1.25	0.42
Cognitive Self-Regulation	0.67	0.26	0.61	0.25
Behavioral Self-Regulation	0.76	0.27	0.67	0.27
Wave 3 – Adolescence				
Critical Reflection	3.11	1.01	3.00	1.08
Sociopolitical Efficacy	4.10	0.58	3.90	0.83
Critical Action	1.36	1.23	1.53	1.36

There were marginally significant differences in prosocial behavior ($t(248) = 1.89$, $p = .06$) and significant differences in behavioral self-regulation ($t(248) = 2.18$, $p = .03$), such that teachers tended to report higher scores of prosocial behavior and behavioral self-regulation for Latino children compared to Black children. There were no significant differences in cognitive self-regulation ($t(248) = 1.52$, $p = .12$) during middle childhood. Furthermore, findings indicated a significant difference across race/ethnicity for sociopolitical efficacy ($t(131) = 2.01$, $p = .04$), but no significant differences for critical reflection ($t(248) = 0.72$, $p = .47$) nor critical action ($t(248) = -0.82$, $p = .41$). Latino teens tended to have higher sociopolitical efficacy compared to their Black peers.

In sum, findings indicated differences based on race/ethnicity in participants' preschool classroom quality, prosocial behavior and behavioral self-regulation during middle childhood, and sociopolitical efficacy during adolescence. There were no significant differences based on race/ethnicity in participants' prosocial behavior, executive functioning, and effortful control during early childhood, cognitive self-regulation during middle childhood, and critical reflection and critical action during adolescence.

CSRP Cohort

In terms of CSRP cohort, results suggest significant differences in preschool classroom quality ($t(240) = 7.85$, $p < .01$). These findings indicate that classrooms in Cohort 1 had significantly higher classroom quality compared to Cohort 2. There were no significant differences in prosocial behavior ($t(248) = 0.14$, $p = .89$), executive function ($t(248) = 0.65$, $p = .52$), and effortful control ($t(248) = -0.46$, $p = .65$) during early childhood.

In addition, there were no significant differences across cohorts in children's prosocial behavior ($t(237) = 0.41$, $p = .68$), cognitive self-regulation ($t(248) = 0.69$, $p = .49$), and behavioral self-regulation ($t(248) = -0.62$, $p = .54$). Next, there were marginally significant differences across cohorts for teens' reports of their sociopolitical efficacy ($t(240) = 1.67$, $p = .09$) and critical action ($t(248) = -1.67$, $p = .09$). Findings indicated that teens in cohort 1 tended to have higher sociopolitical efficacy compared to peers in cohort 2, while participants in cohort 2 tended to engage in more critical action compared to teens in cohort 1. There were no significant differences for critical reflection ($t(248) = 0.24$, $p = .81$).

Overall, there were differences in participants' preschool classroom quality, sociopolitical efficacy, and critical action across CSRP cohorts. There were no significant

differences across CSRP cohorts in terms of participants' early childhood competencies, middle childhood competencies, and critical reflection during adolescence.

Table 5. Means and Standard Deviations Based on Participants' CSRP Cohort

Variable	CSRP Cohort			
	Cohort 1 (N = 120)		Cohort 2 (N = 130)	
	M	*SD*	*M*	*SD*
Wave 1 – Early Childhood				
Classroom Quality	5.38	0.68	4.59	0.89
Prosocial Behavior	2.58	0.91	2.57	0.85
Executive Functioning	1.51	0.25	1.48	0.24
Effortful Control	0.79	0.14	0.81	0.15
Wave 2 – Middle Childhood				
Prosocial Behavior	1.29	0.46	1.26	0.40
Cognitive Self-Regulation	0.64	0.25	0.61	0.25
Behavioral Self-Regulation	0.32	0.28	0.30	0.26
Wave 3 – Adolescence				
Critical Reflection	3.04	1.05	3.01	1.07
Sociopolitical Efficacy	4.03	0.67	3.86	0.87
Critical Action	1.35	1.23	1.63	1.41

CSRP Treatment Status

Between the treatment groups, there were significant differences in preschool classroom quality ($t(247) = 3.58$, $p < .01$) and executive function ($t(248) = -2.51$, $p = .01$), and marginally significant differences in effortful control ($t(248) = -1.81$, $p = .07$). These findings indicate that preschoolers assigned to the control group tended to be in classrooms with better quality, and they had lower executive functioning and effortful control compared to preschoolers in the treatment group. There were no significant differences in prosocial behavior ($t(248) = -1.06$, $p = .29$) across treatment groups during early childhood.

Table 6. Means and Standard Deviations Based on Participants' CSRP Treatment Status

Variable	Treatment Status			
	Control (N = 125)		Treatment (N = 125)	
	M	*SD*	*M*	*SD*
Wave 1 – Early Childhood				
Classroom Quality	5.16	0.89	4.77	0.85
Prosocial Behavior	2.52	0.85	2.63	0.90
Executive Functioning	1.45	0.24	1.53	0.55
Effortful Control	0.78	0.14	0.81	0.15
Wave 2 – Middle Childhood				
Prosocial Behavior	1.27	0.41	1.28	0.45
Cognitive Self-Regulation	0.62	0.26	0.63	0.24
Behavioral Self-Regulation	0.27	0.25	0.34	0.28
Wave 3 – Adolescence				
Critical Reflection	2.97	1.10	3.08	1.02
Sociopolitical Efficacy	3.97	0.81	3.92	0.76
Critical Action	1.58	1.32	1.41	1.33

There were significant differences in reports of behavioral self-regulation across groups ($t(248) = 2.00$, $p = .04$), such that preschoolers randomly assigned to the CSRP control group tended to have higher behavioral self-regulation during middle childhood. There were no significant differences in reports of prosocial behavior ($t(248) = -0.37$, $p = .71$) nor cognitive self-regulation ($t(248) = -0.39$, $p = .69$) between the control and treatment groups. Lastly, there were no significant differences in CSRP teens' critical reflection ($t(248) = -0.80$, $p = .42$), sociopolitical efficacy ($t(248) = 0.57$ $p = .57$), or critical action ($t(248) = 1.04$, $p = .29$) based on their treatment status.

In sum, there were differences based on CSRP treatment status in participants' classroom quality, executive functioning, and effortful control during early childhood, and behavioral self-regulation during middle childhood. There were no significant differences based on CSRP

treatment status in participants' prosocial skills during early childhood, prosocial and cognitive self-regulation skills during middle childhood, and critical consciousness during adolescence.

Bivariate Correlations

Table 7 presents bivariate correlation coefficients among participants' age and income-to-needs ratio, classroom quality, and indicators of prosocial behavior, self-regulation, and critical consciousness. First, consistent with the first proposed model, bivariate correlations were analyzed with teens' critical consciousness and their preschool classroom quality. Preschool classroom quality at Wave 1 was not significantly associated with teens' critical reflection (p = .59), sociopolitical efficacy (p = .57), or critical action (p = .38) at Wave 3. Next, in line with the second proposed model, bivariate correlations with preschool classroom quality and prosocial behavior and cognitive self-regulation during middle childhood were examined. Preschool classroom quality at Wave 1 was not significantly linked with prosocial behavior (p = .25) nor cognitive self-regulation (p = .71) at Wave 2 during middle childhood.

Following the third proposed model, bivariate correlations from prosocial behavior and cognitive self-regulation at Wave 2 to teens' critical consciousness at Wave 3 were examined. Prosocial behavior during middle childhood was significantly and positively associated with sociopolitical efficacy ($p < .01$) and critical action ($p < .01$), but not critical reflection (p = .13). Cognitive self-regulation during middle childhood was significantly and positively correlated with teens' sociopolitical efficacy ($p < .01$) and critical action ($p < .01$), but not critical reflection (p = .45).

Table 7. Summary of Bivariate Correlations for Teens' Critical Consciousness, Middle Childhood Competencies, Preschool Classroom Quality, Early Childhood Competencies, Age, and Income-To-Needs Ratio

Variable	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*
1. EC-CQ	-											
2. EC-PB	.04	-										
3. EC-EF	-.01	.28**	-									
4. EC-EC	-.01	.13*	.39**	-								
5. MC-PB	-.07	.18**	.15*	.16*	-							
6. MC-CS	.02	.26**	.20**	.15*	.48**	-						
7. MC-BS	-.01	.28**	.11†	.18**	.32**	.65**	-					
8. AD-CR	-.03	-.06	.01	.04	.09	.05	.06	-				
9. AD-SE	-.03	.18**	.09	.11†	.21**	.24**	.25**	.06	-			
10. AD-CA	-.06	.19**	.07	.05	.20**	.20**	.13*	.11†	.27**	-		
11. Age	.25**	.21**	.31**	.20**	.07	.01	.01	-.02	.16*	-.03	-	
12. INR	-.05	-.05	.01	-.04	.06	.06	.01	.09	-.06	-.01	.13*	-

Note. Correlations for each variable are presented below the diagonal. Higher scores on all scales indicate that participants associated more with the construct measured. EC-CQ = early childhood classroom quality; EC-PB = early childhood prosocial behavior; EC-EF = early childhood executive functioning; EC-EC = early childhood effortful control; MC-PB = middle childhood prosocial behavior; MC-CS = middle childhood cognitive self-regulation; MC-BS = middle childhood behavioral self-regulation; AD-CR = adolescent critical reflection; AD-SE = adolescent sociopolitical efficacy; AD-CA = adolescent critical action; INR = income-to-needs ratio.

† $p < .10$. * $p < .05$. ** $p < .01$

Children's prosocial behavior at Wave 2 was positively and significantly associated with their cognitive self-regulation ($p < .01$). Teens' critical action was marginally linked to critical reflection ($p = .06$) and significantly associated with their sociopolitical efficacy ($p < .01$) at Wave 3. Teens' critical reflection was not significantly linked with their sociopolitical efficacy ($p = .35$).

Next, linkages among early childhood competencies, behavioral self-regulation, and demographic characteristics were examined. Interestingly, preschoolers' prosocial behavior at Wave 1 was significantly and positively correlated with teens' sociopolitical efficacy ($p < .01$) and critical action ($p < .01$) at Wave 3. Furthermore, early childhood prosocial skills at Wave 1 were significantly and positively correlated with prosocial behavior ($p < .01$), cognitive self-regulation ($p < .01$), and behavioral self-regulation ($p < .01$) at Wave 2 during middle childhood. Early childhood prosocial behavior was not significantly associated with critical reflection ($p = .31$).

Early childhood executive functions were significantly and positively linked with prosocial behavior ($p = .01$) and cognitive self-regulation ($p < .01$), and marginally associated with behavioral self-regulation ($p = .09$) during middle childhood. However, executive functioning at Wave 1 was not linked with critical reflection ($p = .93$), sociopolitical efficacy ($p = .16$), nor critical action ($p = .25$) at Wave 3.

Preschoolers' effortful control at Wave 1 was marginally linked with sociopolitical efficacy at Wave 3 ($p = .08$). Furthermore, effortful control at Wave 1 was significantly and positively related with prosocial behavior ($p = .01$), cognitive self-regulation ($p = .01$), and behavioral self-regulation ($p < .01$) at Wave 2 during middle childhood. However, effortful

control at Wave 1 was not significantly associated with critical reflection ($p = .52$) nor critical action ($p = .39$) at Wave 3.

Young children's prosocial behavior at Wave 1 was positively and significantly linked with their executive functioning ($p < .01$) and effortful control ($p = .04$) at Wave 1. Similarly, young children's executive functioning and their effortful control at Wave 1 were positively and significantly correlated with one another ($p < .01$). Prosocial behavior ($p = .48$), executive functioning ($p = .92$), and effortful control ($p = .92$) at Wave 1 were not significantly linked with preschool classroom quality.

Children's behavioral self-regulation was positively and significantly associated with their prosocial behavior ($p < .01$) and cognitive self-regulation ($p < .01$) at Wave 2. In addition, behavioral self-regulation during middle childhood was significantly and positively linked with sociopolitical efficacy ($p < .01$) and critical action ($p = .04$). Behavioral self-regulation was not significantly correlated with preschool classroom quality ($p = .85$) nor critical reflection ($p = .29$).

Participants' age at Wave 3 was positively and significantly linked with early childhood classroom quality ($p < .01$), prosocial behaviors ($p < .01$), executive functioning ($p < .01$), and effortful control ($p < .01$), as well as teens' sociopolitical efficacy ($p = .01$). Age was not significantly associated with prosocial behavior ($p = .24$), cognitive self-regulation ($p = .86$), or behavioral self-regulation ($p = .93$) at Wave 2, nor was it linked with critical reflection ($p = .76$) and critical action ($p = .59$). In addition, participants' age and INR were significantly and positively associated with one another ($p = .03$).

There were no significant correlations with INR except for children's age. Families' INR was not significantly linked with preschool classroom quality ($p = .43$), prosocial behavior ($p =$

.41), executive functioning (p = .79), and effortful control (p = .48) at Wave 1. Also, families' INR was not significantly linked with prosocial behavior (p = .29), cognitive self-regulation (p = .33), or behavioral self-regulation (p = .92) at Wave 2. In addition, there were no significant relations for critical reflection (p = .16), sociopolitical efficacy (p = .34) nor critical action (p = .81) at Wave 3.

Overall, bivariate findings indicated significant and positive linkages from prosocial behavior and cognitive self-regulation during middle childhood to teens' sociopolitical efficacy and critical action. These findings are congruent with the third hypothesis. Interestingly, prosocial behavior during early childhood was linked to sociopolitical efficacy and critical action, while preschoolers' effortful control was associated with sociopolitical efficacy during adolescence. In addition, preschoolers' prosocial and self-regulatory skills were correlated with their prosocial and self-regulatory skills during middle childhood. However, classroom quality was not significantly linked to prosocial behavior and cognitive self-regulation during middle childhood, nor critical consciousness, which is not in line with the first and second hypotheses.

Multivariate Analyses

Analytic Approach

To test hypotheses 1-4, the present study utilized observed variable multiple regression path analyses in Mplus, which is structural equation modeling (SEM) software (Muthén & Muthén, 2017). It should be noted that this dissertation originally proposed to conduct SEM and to report traditional indices of model fit. However, upon further examination of the nature of variables included, it was decided that path analyses (i.e., an extension of multiple regression) would be more suitable for the present study. More specifically, the variables utilized in the present study are observed continuous and count (i.e., sum of number of times engaging in

specific actions) variables, and therefore represent scores that were entered as data. In other words, the variables used in analyses are not representations of constructs (i.e., latent variables; Kline, 2016). As such, given that critical action is assumed to follow a Poisson distribution, Poisson regressions were utilized when examining pathways to critical action. Indices of model fit are not produced for Poisson regressions, as such measures of model fit require mean statistics for model estimation (Muthén & Muthén, 2009). Thus, standardized regression estimates are shown for direct links.

Despite classroom quality not being linked to the proposed mediators and outcomes, the first hypothesis was tested as planned given its salience for this dissertation. As such, the multivariate analyses examined the following: 1) the total effect of preschool classroom quality on teens' critical reflection, sociopolitical efficacy, and critical action, 2) the direct effects from preschool classroom quality to prosocial behavior and cognitive self-regulation during middle childhood, 3) the direct effects from prosocial and cognitive self-regulatory skills during middle childhood to teens' critical reflection, sociopolitical efficacy, and critical action, and 4) the direct and indirect effects of preschool classroom quality to critical consciousness during adolescence, simultaneously through prosocial behaviors and cognitive self-regulation.

The first model (see Figure 1) included a directional path from early childhood classroom quality at Wave 1 to all three components of critical consciousness during adolescence at Wave 3 (i.e., critical reflection, political self-efficacy, and critical action). Participants' age, gender, race/ethnicity, income-to-needs (INR), CSRP cohort, and CSRP treatment status, as well as preschoolers' prosocial behavior, executive functioning, and effortful control, were included as covariates when testing all models.

The second model (Figure 2) included directional paths from preschool classroom quality at Wave 1 to prosocial behavior and cognitive self-regulation during middle childhood, at Wave 2. As noted in the bivariate section above, there was a high correlation between cognitive and behavioral self-regulation ($r(248) = .65$, $p < .01$). This raises concerns about multicollinearity, which occurs when there is a high correlation between two or more independent variables in a multiple regression model, causing difficulty to determine that both variables are independent of one another (Tabachnick & Fidell, 2013). Thus, behavioral self-regulation during middle childhood was not included as a control variable in the final multivariate models.

Next, the third model (Figure 3) included directional paths from prosocial behavior and cognitive self-regulation during middle childhood to the three indicators of critical consciousness during adolescence. Building on the first model, the third model additionally controlled for preschool classroom quality.

Figure 4 depicts the fourth model. As displayed in Figure 4, there are directional paths from early childhood classroom quality at Wave 1 to both prosocial behavior and cognitive self-regulation at Wave 2, during middle childhood. Paths were then estimated from early childhood classroom quality at Wave 1 as well as prosocial behavior and cognitive self-regulation at Wave 2, to the three indicators of critical consciousness at Wave 3, during adolescence.

Indirect linkages were tested from early childhood classroom quality to teens' critical consciousness. More specifically, prosocial behavior and cognitive self-regulation during middle childhood at Wave 2 were examined as simultaneous mediators. As such, both total and specific indirect effects will be examined (Preacher & Hayes, 2008). *Specific indirect effects* focus on the effect of one mediator while controlling for the indirect effect of the other mediator. The *total indirect effect*, which is the sum of the specific indirect effects occurring through both mediators,

accounts for the joint contribution of both mediators in explaining the mechanism by which preschool classroom quality may shape teens' critical consciousness. Furthermore, as noted in the bivariate analyses above, there was a moderate correlation between prosocial behavior and cognitive self-regulation during middle childhood ($r(248) = .48$, $p < .01$). By investigating total indirect effects in addition to specific indirect effects, the present study accounts for possible interdependence between prosocial behavior and cognitive self-regulation in shaping critical consciousness, as well as the possibility that an individual mediator may not uniquely foster the outcome due to collinearity (Preacher & Hayes, 2008).

The unstandardized estimates for the indirect effects were reported, as the standardized estimates for indirect effects may not be computed within the multilevel framework (Preacher et al., 2010). To test simultaneous mediation for the two-level models with critical reflection and sociopolitical efficacy as outcome variables, total and specific indirect effects were examined with bootstrapped 95% confidence intervals with 5000 sample replicates. To test simultaneous mediation for the two-level model with critical action as an outcome variable, total and specific indirect effects were determined with a Monte Carlo integration technique, as bootstrapping is unavailable to use when estimating Poisson regressions (Muthén & Muthén, 2017).

Supplementary Multilevel Models

The appendix includes supplementary models that were conducted using two-level multiple regression path analyses. Multilevel models were not included in the main analyses because the number of parameters exceeded the capacity to estimate a multi-level Poisson regression for critical action (Muthén & Muthén, 2017). In addition, small intraclass correlation (ICC) values on continuous predictors suggested that differences in the second level explained minimal variance above and beyond the first level (Tabachnick & Fidell, 2013), and the

between-level variance for the random intercepts of the count outcome variable (i.e., critical action) was non-significant (Muthén & Muthén, 2017).

Preschool Classroom Quality Predicting Teens' Critical Consciousness

Table 8 lists the standardized regression estimate findings for the first hypothesis, including total effects on teens' critical consciousness. In terms of the first hypothesis, the results for critical consciousness exhibited no significant associations from preschool classroom quality to teens' critical reflection (see the first panel of Table 8).

As seen in the second panel of Table 8, findings indicated a negative significant association from preschool classroom quality to teens' sociopolitical efficacy. Having higher classroom quality during preschool was linked to lower sociopolitical efficacy during adolescence. In addition, preschoolers' prosocial behavior was marginally and positively linked to sociopolitical efficacy, such that higher levels of prosocial skills during early childhood was associated with greater sociopolitical efficacy during adolescence.

Preschool classroom quality was not significantly predictive of critical action, as indicated in the third panel of Table 8. The fourth panel of Table 8 shows that preschoolers' prosocial skills were significantly and positively linked with teens' critical action. Higher indications of prosocial behavior during early childhood were related to greater engagement in critical action during adolescence.

Table 8. Predicting Teens' Critical Consciousness from Preschool Classroom Quality

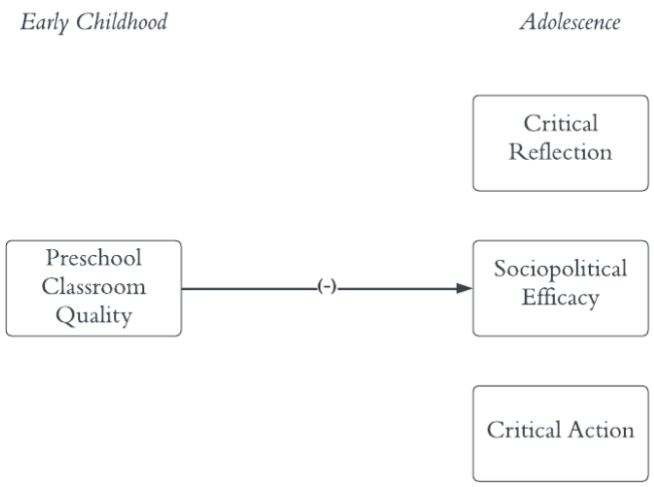
Pathways	β	SE	95% CI	*p*
EC-CQ → AD-CR	-0.03	0.07	[-0.14, 0.08]	.67
Control Variables → AD-CR				
Age	-0.08	0.11	[-0.26, 0.09]	.46
Gender	0.02	0.07	[-0.09, 0.13]	.73
Race/Ethnicity	-0.06	0.07	[-0.18, 0.07]	.45
INR	0.09	0,07	[-0.03, 0.21]	.21
Cohort	-0.04	0.12	[-0.22, 0.16]	.74
Treatment Status	0.06	0.06	[-0.05, 0.16]	.37
EC-PB	-0.07	0.07	[-0.18, 0.05]	.34
EC-EF	0.02	0.07	[-0.09, 0.13]	.76
EC-EC	0.04	0.07	[-0.07, 0.17]	.52
EC-CQ → AD-SE	-0.15*	0.06	[-0.25, -0.05]	.01
Control Variables → AD-SE				
Age	0.08	0.11	[-0.08, 0.26]	.41
Gender	0.08	0.06	[-0.03, 0.18]	.23
Race/Ethnicity	-0.03	0.07	[-0.14, 0.07]	.59
INR	-0.09	0.09	[-0.23, 0.06]	.33
Cohort	-0.10	0.11	[-0.28, 0.07]	.33
Treatment Status	-0.09	0.06	[-0.19, 0.01]	.15
EC-PB	0.13†	0.08	[0.01, 0.26]	.09
EC-EF	0.01	0.07	[-0.11, 0.12]	.96
EC-EC	0.06	0.07	[-0.05, 0.17]	.36
EC-CQ → AD-CA	-0.18	0.26	[-0.62, 0.25]	.48
Control Variables → AD-CA				
Age	-0.05	0.40	[-0.71, 0.60]	.89
Gender	0.25	0.25	[-0.16, 0.66]	.32
Race/Ethnicity	0.09	0.29	[-0.39, 0.59]	.74
INR	0.03	0.25	[-0.38, 0.44]	.91
Cohort	0.26	0.39	[-0.38, 0.89]	.51
Treatment Status	-0.36	0.26	[-0.79, 0.07]	.16
EC-PB	0.73**	0.19	[0.41, 1.05]	.00
EC-EF	0.11	0.27	[-0.34, 0.56]	.69
EC-EC	0.09	0.28	[-0.37, 0.55]	.76

Note. Models controlled for participants' age, gender, race/ethnicity, INR, CSRP cohort, and CSRP treatment status, as well as early childhood prosocial behavior (EC-PB), executive functioning (EC-EF), and effortful control (EC-EC). Standardized path estimates (β) with standard errors (SE), 95% confidence intervals (CI), and two-tailed *p*-values are reported (*p*); EC-CQ = preschool classroom quality; AD-CR = critical reflection; AD-SE = sociopolitical efficacy; AD-CA = critical action.

†$p < .10$. *$p < .05$. **$p < .01$

Overall, findings for the first proposed model indicated a significant and negative total effect of classroom quality on teens' sociopolitical efficacy (see Figure 5). However, these findings are not in the expected direction, such that higher quality preschool classrooms was associated with lower sociopolitical efficacy during adolescence. Interestingly, there were positive total effects where preschoolers' prosocial skills marginally predicted sociopolitical efficacy and significantly predicted critical action during adolescence. The mechanisms by which these linkages occurred will be investigated with an alternative simultaneous mediation model.

Figure 5. Summary of Findings Predicting Teens' Critical Consciousness from Preschool Classroom Quality



Note. Models controlled for participants' age, gender, race/ethnicity, INR, CSRP cohort, and CSRP treatment status, as well as preschool prosocial behavior, executive functioning, and effortful control; dotted lines indicate marginally significant linkages at $p < .10$ and full lines indicate significant linkages at $p < .05$.

Preschool Classroom Quality Predicting Prosocial Behavior and Cognitive Self-Regulation During Middle Childhood

Next, Tables 9 and 10 include the standardized regression estimate findings for the second and third hypotheses, including direct effects to dependent variables. In terms of the second hypothesis, findings indicated a negative and significant link from preschool classroom

quality to prosocial behavior during middle childhood (see the first panel of Table 9). Unexpectedly, attending higher quality preschool classrooms was predictive of lower levels of prosocial behavior four years later. In this model, prosocial behavior during middle childhood was marginally linked with gender and prosocial behavior in preschool. Girls tended to engage in more prosocial behavior during middle childhood compared to boys, and there was marginal stability in prosocial behavior across early and middle childhood.

As indicated in the second panel of Table 9, preschool classroom quality was not significantly associated with cognitive self-regulation during middle childhood. Cognitive self-regulation during middle childhood was significantly associated with participants' age and gender, as well as prosocial behavior and executive functioning during preschool, and marginally connected to CSRP cohort. Age was negatively linked with cognitive self-regulation during middle childhood. Girls tended to have greater cognitive self-regulation compared to boys during middle childhood, and children in the second cohort tended to have greater cognitive self-regulation compared to children in the first cohort. Furthermore, children with higher levels of prosocial and executive functioning skills during preschool tended to have greater cognitive self-regulation during middle childhood.

Overall, preschool classroom quality was negatively linked with children's prosocial behavior four years later, and not predictive of cognitive self-regulatory skills during middle childhood (see Figure 6). However, there were positive linkages from young children's prosocial skills to both prosocial behavior and cognitive self-regulation during middle childhood. In addition, young children's executive functioning skills were positively associated with their cognitive self-regulation during middle childhood.

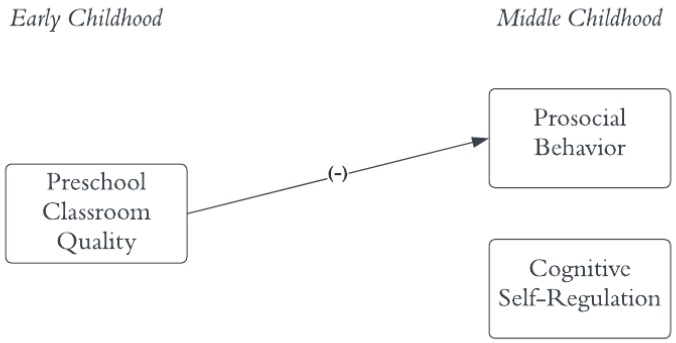
Table 9. Direct Pathways to Prosocial Behavior and Cognitive Self-Regulation During Middle Childhood from Preschool Classroom Quality

Variables	β	SE	95% CI	*p*
EC-CQ → MC-PB	-0.12*	0.06	[-0.23, -0.02]	.04
Control Variables → MC-PB				
Age	-0.04	0.09	[-0.19, 0.11]	.63
Gender	0.13†	0.07	[0.02, 0.24]	.05
Race/Ethnicity	-0.12	0.07	[-0.24, 0.01]	.13
INR	0.07	0.06	[-0.03, 0.17]	.26
Cohort	-0.03	0.10	[-0.21, 0.13]	.74
Treatment Status	-0.01	0.07	[-0.12, 0.09]	.88
EC-PB	0.12†	0.07	[0.01, 0.23]	.08
EC-EF	0.09	0.07	[-0.02, 0.19]	.18
EC-EC	0.08	0.07	[-0.04, 0.21]	.26
EC-CQ → MC-CS	-0.02	0.07	[-0.14, 0.09]	.76
Control Variables → MC-CS				
Age	-0.27**	0.09	[-0.42, -0.11]	.00
Gender	0.13*	0.06	[0.03, 0.23]	.04
Race/Ethnicity	-0.06	0.07	[-0.18, 0.05]	.36
INR	0.08	0.06	[-0.02, 0.18]	.19
Cohort	-0.18†	0.10	[-0.35, -0.01]	.07
Treatment Status	0.01	0.06	[-0.09, 0.12]	.81
EC-PB	0.22**	0.06	[0.12, 0.33]	.00
EC-EF	0.17*	0.06	[0.06, 0.27]	.01
EC-EC	0.09	0.06	[-0.02, 0.20]	.18

Note. Models controlled for participants' age, gender, race/ethnicity, INR, CSRP cohort, and CSRP treatment status, as well as preschoolers' prosocial behavior (EC-PB), executive functioning (EC-EF), and effortful control (EC-EC). Standardized path estimates (β) with standard errors (SE), 95% confidence intervals (CI), and two-tailed *p*-values are reported (*p*); EC-CQ = preschool classroom quality; MC-PB = middle childhood prosocial behavior; MC-CS = middle childhood cognitive self-regulation.

†$p < .10$. *$p < .05$. **$p < .01$

Figure 6. Summary of Findings Predicting Prosocial Behavior and Cognitive Self-Regulation During Middle Childhood from Preschool Classroom Quality



Note. Models controlled for participants' age, gender, race/ethnicity, INR, CSRP cohort, and CSRP treatment status, as well as preschoolers' prosocial behavior, executive functioning, and effortful control; dotted lines indicate marginally significant linkages at $p < .10$ and full lines indicate significant linkages at $p < .05$.

Prosocial Behavior and Cognitive Self-Regulation During Middle Childhood Predicting Teens' Critical Consciousness

Regarding the third proposed model, critical reflection was not predicted by prosocial behavior nor cognitive self-regulation during middle childhood (see the first panel of Table 10). , Similarly, sociopolitical efficacy was not explained by prosocial behavior during middle childhood. In contrast, sociopolitical efficacy was significantly predicted by cognitive self-regulation (see the second panel of Table 10). Higher cognitive self-regulation during middle childhood was associated with greater sociopolitical efficacy during adolescence. Even in models that included middle childhood competencies, preschool classroom quality was still significantly and negatively associated with teens' sociopolitical efficacy.

Table 10. Direct Pathways to Teens' Critical Consciousness from Prosocial Behavior and Cognitive Self-Regulation During Middle Childhood

Pathways	β	SE	95% CI	*p*
MC-PB → AD-CR	0.08	0.08	[-0.04, 0.22]	.27
MC-CS → AD-CR	0.01	0.08	[-0.13, 0.14]	.95
Control Variables → AD-CR				
Age	-0.07	0.11	[-0.26, 0.11]	.51
Gender	0.01	0.07	[-0.11, 0.12]	.87
Race/Ethnicity	-0.05	0.07	[-0.17, 0.08]	.54
INR	0.08	0.07	[-0.03, 0.19]	.24
Cohort	-0.03	0.12	[-0.23, 0.16]	.77
Treatment Status	0.06	0.06	[-0.05, 0.16]	.37
EC-PB	-0.08	0.07	[-0.19, 0.04]	.26
EC-EF	0.01	0.07	[-0.10, 0.13]	.86
EC-EC	0.04	0.07	[-0.08, 0.16]	.59
EC-CQ	-0.02	0.07	[-0.13, 0.09]	.80
MC-PB → AD-SE	0.08	0.07	[-0.07, 0.37]	.26
MC-CS → AD-SE	0.18*	0.07	[0.19, 0.95]	.01
Control Variables → AD-SE				
Age	0.14	0.10	[-0.03, 0.34]	.18
Gender	0.04	0.06	[-0.11, 0.24]	.51
Race/Ethnicity	-0.01	0.06	[-0.23, 0.17]	.83
INR	-0.11	0.09	[-0.36, 0.05]	.22
Cohort	-0.07	0.11	[-0.39, 0.17]	.53
Treatment Status	-0.09	0.06	[-0.31, 0.01]	.14
EC-PB	0.08	0.08	[-0.04, 0.18]	.30
EC-EF	-0.03	0.07	[-0.48, 0.26]	.64
EC-EC	0.04	0.07	[-0.34, 0.80]	.54
EC-CQ	-0.13*	0.06	[-0.21, -0.03]	.03
MC-PB → AD-CA	0.40*	0.19	[0.08, 0.72]	.03
MC-CS → AD-CA	0.35	0.22	[-0.02, 0.71]	.12
Control Variables → AD-CA				
Age	0.07	0.32	[-0.46, 0.59]	.83
Gender	0.11	0.21	[-0.24, 0.45]	.61
Race/Ethnicity	0.14	0.23	[-0.23, 0.51]	.53
INR	-0.03	0.19	[-0.35, 0.29]	.88
Cohort	0.29	0.31	[-0.21, 0.80]	.34
Treatment Status	-0.28	0.21	[-0.63, 0.06]	.18
EC-PB	0.46*	0.18	[0.15, 0.76]	.01
EC-EF	-0.01	0.22	[-0.37, 0.36]	.97
EC-EC	0.01	0.21	[-0.35, 0.36]	.98
EC-CQ	-0.09	0.21	[-0.45, 0.25]	.65

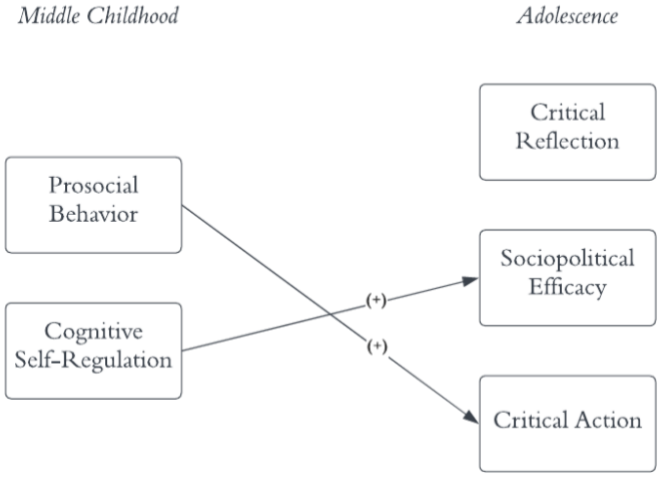
Note. Models controlled for participants' age, gender, race/ethnicity, INR, CSRP cohort, CSRP treatment status, and preschooler's prosocial behavior (EC-PB), executive functioning (EC-EF), effortful control (EC-EC), and classroom quality (EC-CQ). Standardized path estimates (β) with standard errors (SE), 95% confidence intervals (CI), and two-

tailed *p*-values are reported (*p*); MC-PB = middle childhood prosocial behavior; MC-CS = middle childhood cognitive self-regulation; AD-CR = critical reflection; AD-SE = sociopolitical efficacy; AD-CA = critical action. $^{\dagger}p < .10$. $*p < .05$

As listed in the third panel of Table 10, critical action was significantly predicted by prosocial behavior, but not by cognitive self-regulation during middle childhood. Higher levels of prosocial behavior during middle childhood were associated with greater critical action during adolescence. In this model with middle childhood competencies, preschoolers' prosocial behavior was still significantly linked with teens' critical action, such that participants with higher prosocial behavior during early childhood tended to engage in greater critical action during adolescence.

In summary, middle childhood competencies were predictive of adolescent critical consciousness (see Figure 7). More specifically, prosocial behaviors during middle childhood positively shaped teens' critical action. In addition, cognitive self-regulation during middle childhood was positively linked with teens' sociopolitical efficacy.

Figure 7. Summary of Findings Predicting Teens' Critical Consciousness from Prosocial Behavior and Cognitive Self-Regulation During Middle Childhood



Note. Models controlled for participants' age, gender, race/ethnicity, INR, CSRP cohort, and CSRP treatment status, as well as preschoolers' prosocial behavior, executive functioning, effortful control, and classroom quality; dotted lines indicate marginally significant linkages at $p < .10$ and full lines indicate significant linkages at $p < .05$.

Testing Prosocial Behavior and Cognitive Self-Regulation as Simultaneous Mediators

Next, the fourth model with multiple mediation was examined. Indirect findings are reported in Table 11. This table shows unstandardized estimates for total and specific indirect effects (Preacher & Hayes, 2008; MacKinnon et al., 2007).

Table 11. Indirect Effects Predicting Teens' Critical Consciousness from Preschool Classroom Quality, Simultaneously Mediated by Prosocial Behavior and Cognitive Self-Regulation

Pathways	*B*	SE	95% CI	*p*
Total Indirect Effects				
EC-CQ → MC-PB & MC-CS → AD-CR	-0.01	0.01	[-0.04, 0.01]	.40
EC-CQ → MC-PB & MC-CS → AD-SE	-0.01	0.01	[-0.02, 0.02]	.46
EC-CQ → MC-PB & MC-CS → AD-CA	-0.02	0.01	[-0.04, 0.01]	.23
Specific Indirect Effects				
EC-CQ → MC-PB → AD-CR	-0.01	0.01	[-0.04, 0.01]	.39
EC-CQ → MC-CS → AD-CR	0.00	0.01	[-0.01, 0.01]	.98
EC-CQ → MC-PB → AD-SE	-0.01	0.01	[-0.02, 0.01]	.38
EC-CQ → MC-CS → AD-SE	-0.01	0.01	[-0.01, 0.02]	.78
EC-CQ → MC-PB → AD-CA	-0.02	0.01	[-0.04, 0.01]	.18
EC-CQ → MC-CS → AD-CA	-0.01	.01	[-0.02, 0.01]	.76

Note. Models controlled for participants' age, gender, race/ethnicity, INR, CSRP cohort, and CSRP treatment status, as well as preschoolers' prosocial behavior (EC-PB), executive functioning (EC-EF), and effortful control (EC-EC). Unstandardized path estimates (*B*) with standard errors (SE), 95% confidence intervals (CI), and two-tailed *p*-values are reported (*p*).

There were null indirect effects for critical reflection, sociopolitical efficacy, and critical action. Results indicated a non-significant total indirect effect from preschool classroom quality at Wave 1 to teens' critical reflection at Wave 3, simultaneously through prosocial behavior and cognitive self-regulation at Wave 2 (see the first panel of Table 11). As indicated in the second panel of Table 11, the specific indirect effects through prosocial behavior and cognitive self-regulation at Wave 2 were not significant either. Similarly, results indicated a non-significant total indirect effect from preschool classroom quality at Wave 1 to teens' sociopolitical efficacy at Wave 3, simultaneously through prosocial behavior and cognitive self-regulation at Wave 2

(see the first panel of Table 11). Specific indirect pathways through prosocial behavior and cognitive self-regulation at Wave 2 were null as well (see the second panel of Table 11).

Lastly, indirect findings suggested that the total indirect effect from preschool classroom quality at Wave 1 to teens' critical action at Wave 3, simultaneously through prosocial behavior and cognitive self-regulation at Wave 2, was not significant (see the first panel of Table 11). In addition, there were null specific indirect effects through prosocial behavior and cognitive self-regulation at Wave 2 (see the second panel of Table 11). Overall, results from the proposed analyses are congruent with findings yielded from multilevel models (see Appendix).

That said, post hoc power analyses were conducted for the proposed multiple mediation models with the Monte Carlo Power Analysis for Indirect Effects (Schoemann et al., 2017). With a sample size of 250 participants, power analyses for indirect effects through prosocial behavior at Wave 2 ranged from $1 - \beta = .03$ to .06. In addition, power analyses for indirect effects through cognitive self-regulation at Wave 2 ranged from $1 - \beta = .01$ to .03. These findings revealed that the analyses for the proposed models were underpowered according to Cohen's criteria (i.e., $1 - \beta = .80$; Cohen, 1988).

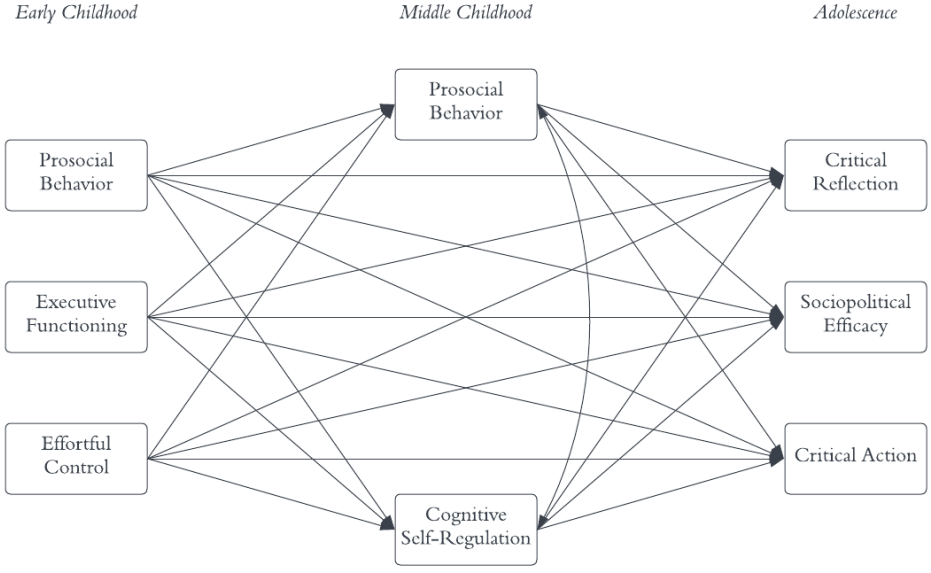
Alternative Multiple Mediation Model

In addition to testing the simultaneous mediation model outlined in the proposed dissertation, a second simultaneous mediation model investigated linkages from preschoolers' prosocial behavior, executive functioning, and effortful control to teens' critical consciousness, simultaneously through prosocial behavior and cognitive self-regulation during middle childhood. This alternative simultaneous mediation model is based on the bivariate findings, where prosocial behavior, executive functioning, and effortful control were positively associated with prosocial behavior and cognitive self-regulation during middle childhood. Also,

preschoolers' prosocial behavior was positively correlated with sociopolitical efficacy and critical action during adolescence, while preschoolers' effortful control was positively associated with sociopolitical efficacy during adolescence. Notably, these bivariate results are consistent with developmental theory and existing research as discussed in the literature review.

As displayed in Figure 8, the alternative simultaneous mediation model tested for direct and indirect linkages from prosocial behavior, executive functioning, and effortful control at Wave 1 to critical reflection, sociopolitical efficacy, and critical action at Wave 3. The analytic approach for the alternative multiple mediation model was similar to the one used when testing indirect effects for the proposed fourth model. Control variables in the alternative models included preschool classroom quality as well as participants' age, gender, race/ethnicity, INR, CSRP cohort, and CSRP treatment status.

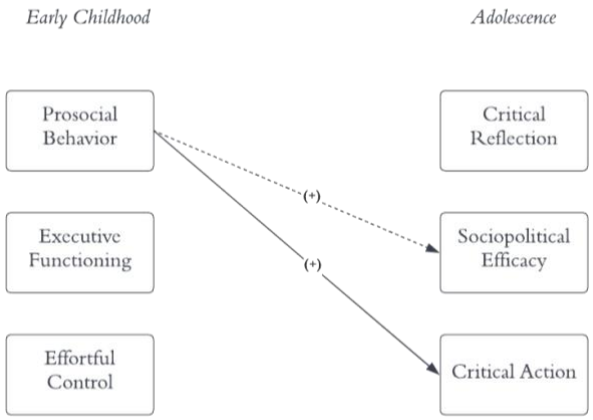
Figure 8. Alternative Simultaneous Mediation Model Predicting Adolescent Critical Consciousness from Early and Middle Childhood Competencies



Unstandardized estimates for total and specific indirect effects are reported in Tables 12-14. There were no significant total indirect effects from preschoolers' prosocial behavior, executive functioning, or effortful control to teens' critical reflection, simultaneously through

prosocial behavior and cognitive self-regulation during middle childhood (see the first panel of Table 12). In addition, there were null specific indirect effects to critical reflection from early prosocial and self-regulatory skills, through prosocial behavior and cognitive self-regulation (see the second panel of Table 12).

Figure 9. Summary of Total Effects to Teens' Critical Consciousness from Preschoolers' Prosocial and Self-Regulatory Skills



Note. Models controlled for participants' age, gender, race/ethnicity, INR, CSRP cohort, CSRP treatment status, and preschool classroom quality; dotted lines indicate marginally significant linkages at $p < .10$ and full lines indicate significant linkages at $p < .05$.

As listed in the first panel of Table 13, results revealed a significant total indirect effect from preschoolers' prosocial behavior to teens' sociopolitical efficacy, simultaneously through prosocial behavior and cognitive self-regulation. In addition, there was a marginally significant total indirect effect from young children's executive functioning to teens' sociopolitical efficacy. The second panel of Table 13 shows that there were marginally significant specific indirect effects from prosocial behavior and executive functioning during early childhood to sociopolitical efficacy, through cognitive self-regulation during middle childhood. However, there were no total or specific indirect effects linking preschoolers' effortful control to their sociopolitical efficacy during adolescence.

Table 12. Indirect Effects Predicting Teens' Critical Reflection from Preschoolers' Prosocial and Self-Regulatory Skills, Simultaneously Mediated by Prosocial Behavior and Cognitive Self-Regulation

Pathways	*B*	SE	95% CI	*p*
Simultaneous Indirect Effects				
EC-PB → MC-PB & MC-CS → AD-CR	0.01	0.02	[-0.02, 0.05]	.55
EC-EF → MC-PB & MC-CS → AD-CR	0.04	0.06	[-0.06, 0.15]	.58
EC-EC → MC-PB & MC-CS → AD-CR	0.06	0.09	[-0.07, 0.22]	.53
Specific Indirect Effects				
EC-PB → MC-PB → AD-CR	0.01	0.01	[-0.01, 0.04]	.38
EC-PB → MC-CS → AD-CR	0.00	0.02	[-0.04, 0.04]	.95
EC-EF → MC-PB → AD-CR	0.03	0.04	[-0.02, 0.12]	.46
EC-EF → MC-CS → AD-CR	0.00	0.06	[-0.09, 0.11]	.95
EC-EC → MC-PB → AD-CR	0.05	0.07	[-0.05, 0.20]	.50
EC-EC → MC-CS → AD-CR	0.00	0.07	[-0.10, 0.12]	.96

Note. Models controlled for participants' age, gender, race/ethnicity, INR, CSRP cohort, CSRP treatment status, and preschool classroom quality. Unstandardized path estimates (*B*) with standard errors (SE), 95% confidence intervals (CI), and two-tailed *p*-values are reported (*p*); EC-PB = early childhood prosocial behavior; EC-EF = early childhood executive functioning; EC-EC = early childhood effortful control; MC-PB = middle childhood prosocial behavior; MC-CS = middle childhood cognitive self-regulation; AD-CR = adolescent critical reflection.

Table 13. Indirect Effects Predicting Teens' Sociopolitical Efficacy from Preschoolers' Prosocial and Self-Regulatory Skills, Simultaneously Mediated by Prosocial Behavior and Cognitive Self-Regulation

Pathways	*B*	SE	95% CI	*p*
Simultaneous Indirect Effects				
EC-PB → MC-PB & MC-CS → AD-SE	0.05*	0.02	[0.02, 0.08]	.04
EC-EF → MC-PB & MC-CS → AD-SE	0.12†	0.06	[0.03, 0.23]	.05
EC-EC → MC-PB & MC-CS → AD-SE	0.12	0.10	[-0.02, 0.31]	.23
Specific Indirect Effects				
EC-PB → MC-PB → AD-SE	0.01	0.01	[-0.01, 0.03]	.39
EC-PB → MC-CS → AD-SE	0.04†	0.02	[0.01, 0.07]	.05
EC-EF → MC-PB → AD-SE	0.02	0.03	[-0.01, 0.08]	.47
EC-EF → MC-CS → AD-SE	0.09†	0.05	[0.02, 0.19]	.07
EC-EC → MC-PB → AD-SE	0.04	0.05	[-0.04, 0.13]	.49
EC-EC → MC-CS → AD-SE	0.09	0.08	[-0.02, 0.23]	.27

Note. Models controlled for participants' age, gender, race/ethnicity, INR, CSRP cohort, CSRP treatment status, and preschool classroom quality. Unstandardized path estimates (*B*) with standard errors (SE), 95% confidence intervals (CI), and two-tailed *p*-values are reported (*p*); EC-PB = early childhood prosocial behavior; EC-EF = early childhood executive functioning; EC-EC = early childhood effortful control; MC-PB = middle childhood prosocial behavior; MC-CS = middle childhood cognitive self-regulation; AD-SE = adolescent sociopolitical efficacy.
$^{\dagger}p < .10$. $*p < .05$

Lastly, findings indicated a significant total indirect effect from preschoolers' prosocial behavior to their critical action during adolescence, simultaneously through prosocial behavior and cognitive self-regulation during middle childhood (see the first panel of Table 14). In addition, there was a marginally significant total indirect effect linking executive functioning during early childhood to teens' critical action. However, results did not suggest total indirect effects from preschoolers' effortful control to teens' critical action, nor any specific indirect effects from young children's prosocial and self-regulatory skills to critical action (see the second panel of Table 14).

Table 14. Indirect Effects Predicting Teens' Critical Action from Preschoolers' Prosocial and Self-Regulatory Skills, Simultaneously Mediated by Prosocial Behavior and Cognitive Self-Regulation

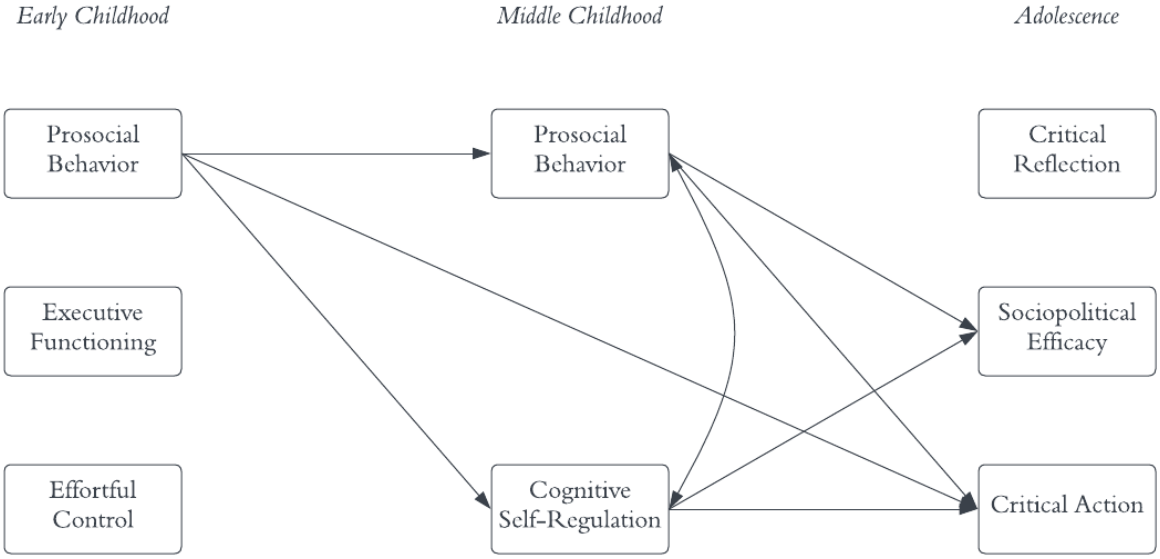
Pathways	*B*	SE	95% CI	*p*
Simultaneous Indirect Effects				
EC-PB → MC-PB & MC-CS → AD-CA	0.04*	0.02	[0.01, 0.07]	.03
EC-EF → MC-PB & MC-CS → AD-CA	0.10†	0.06	[0.01, 0.20]	.08
EC-EC → MC-PB & MC-CS → AD-CA	0.12	0.09	[-0.04, 0.27]	.21
Specific Indirect Effects				
EC-PB → MC-PB → AD-CA	0.02	0.01	[-0.01, 0.03]	.21
EC-PB → MC-CS → AD-CA	0.02	0.02	[-0.01, 0.05]	.16
EC-EF → MC-PB → AD-CA	0.04	0.03	[-0.02, 0.09]	.25
EC-EF → MC-CS → AD-CA	0.06	0.05	[-0.02, 0.14]	.19
EC-EC → MC-PB → AD-CA	0.06	0.06	[-0.04, 0.17]	.31
EC-EC → MC-CS → AD-CA	0.06	0.06	[-0.04, 0.15]	.32

Note. Models controlled for participants' age, gender, race/ethnicity, INR, CSRP cohort, CSRP treatment status, and preschool classroom quality. Unstandardized path estimates (*B*) with standard errors (SE), 95% confidence intervals (CI), and two-tailed *p*-values are reported (*p*); EC-PB = early childhood prosocial behavior; EC-EF = early childhood executive functioning; EC-EC = early childhood effortful control; MC-PB = middle childhood prosocial behavior; MC-CS = middle childhood cognitive self-regulation; AD-CA = adolescent critical action.
$^{\dagger}p < .10$. $*p < .05$

In summary, prosocial behaviors and cognitive self-regulation during middle childhood simultaneously mediated linkages from prosocial behavior during early childhood to teens' sociopolitical efficacy and critical action during adolescence (see Figure 10). Furthermore, this

indirect effect may be driven by cognitive regulation. There was a marginal specific indirect effects where cognitive self-regulation during middle childhood served as a unique mediator linking preschoolers' prosocial skills to their sociopolitical efficacy during adolescence. Other trend findings suggest that preschoolers' executive function is indirectly associated with adolescents' critical consciousness via middle childhood competencies. These findings are in line with results from multilevel analyses examining pathways to critical action and sociopolitical efficacy (see Appendix).

Figure 10. Summary of Indirect Linkages Predicting Teens' Critical Consciousness from Preschoolers' Prosocial and Self-Regulatory Skills through Prosocial Behavior and Cognitive Self-Regulation During Middle Childhood



Note. Models controlled for participants' age, gender, race/ethnicity, INR, CSRP cohort, CSRP treatment status, and preschool classroom quality.

Similar to the case for the proposed indirect effects models, post hoc power analyses were conducted for the alternative multiple mediation models. With a sample size of 250 participants, power analyses for indirect effects through prosocial behavior at Wave 2 ranged from $1 - \beta = .12$ to .32. In addition, power analyses for indirect effects through cognitive self-

regulation at Wave 2 ranged from $1 - \beta = .03$ to .56. Again, the results revealed that the analyses were underpowered according to Cohen's criteria (i.e., $1 - \beta = .80$; Cohen, 1988).

CHAPTER FOUR

DISCUSSION

This dissertation is the first study to investigate ways in which prosocial behaviors and self-regulation skills longitudinally predict critically conscious thoughts, beliefs, and actions across three developmental periods: early childhood, middle childhood, and adolescence. By incorporating a developmental approach, the present study considers ways in which competencies evolve and appear differently across stages of childhood, as part of pathways to critical consciousness. In doing so, results from this dissertation suggest that Black and Latino children's prosocial and self-regulatory skills act as antecedents for critical consciousness. More specifically, prosocial behavior during middle childhood was found to be predictive of critical action during adolescence, while cognitive self-regulation during middle childhood predicted sociopolitical efficacy during adolescence. Furthermore, prosocial tendencies exhibited in the preschool classroom served as a foundation for teens' sociopolitical efficacy and critical action, simultaneously through prosocial behavior and cognitive self-regulation in middle childhood.

Overall, this research extends the existing literature by underscoring the importance of fostering young Black and Latino children's prosocial and self-regulatory skills, as they may serve as early building blocks for challenging existing social structures that perpetuate inequality. These results are consistent with recent non-empirical research suggesting that prosocial skills serve as developmental precursors for social justice-oriented thoughts and behaviors (Carlo et al., 2022), as well as a small but growing set of literature suggesting possible

early prosocial and self-regulatory roots of civic engagement (Astuto & Ruck, 2010; Kitchens & Gormley, 2023; Reifen-Tagar & Cimpian, 2022; Wray-Lake & Syvertson, 2011). Additionally, results from the present study are congruent with a long line of research indicating the importance in investing in the early development of social and emotional competencies that yield long-term benefits for individuals and their communities (Heckman, 2000).

The Role of Early Childhood Factors

Preschool Classroom Quality, Prosocial Behavior, and Teens' Critical Consciousness

In general, classroom quality during early childhood was not related to middle childhood competencies nor adolescent critical consciousness. Even though a strength of the present investigation is its longitudinal design, it could be that the waves were too distant from one another. Although investing in the quality of preschools has often led to substantial positive short- and long-term impacts on children (Yoshikawa et al., 2013), the advantages of attending high quality preschools have sometimes been found to diminish over time. For example, Hill and colleagues (2015) found that the effects of attending a high quality preschool classroom did not last through the third grade for math and reading skills. It could be that a similar story is occurring with social and emotional adjustment over time.

Still, there were two significant associations between early childhood classroom quality and later development. Attending a higher quality classroom during preschool predicted lower levels of prosocial behavior and lower motivation to engage in critically conscious behaviors (i.e., sociopolitical efficacy). Despite the unexpected nature of these results, this is notable given that past research on critical consciousness has not investigated the contribution of early childhood classrooms and that prior studies on classroom quality and prosocial behavior tend to center on early childhood. Moreover, the present study highlights the importance of carefully

considering how classroom quality is defined, the meaning of prosocial behavior and critical consciousness, and the broader contexts in which children's learning and lives are embedded.

Potential explanations for negative outcomes from early childhood educational experiences found in the present study may require a broader lens on environmental contexts from childhood through adolescence (Roy et al., 2019; Watts et al., 2023). In a recent mixed methods study with CSRP teens, researchers found that higher levels of lifetime exposure to neighborhood income inequality (i.e., unequal wealth and resource distribution) was linked with a greater tendency of engaging in critically conscious behaviors (Roy et al., 2019). Given that the CSRP preschools were located in seven of the highest poverty neighborhoods in Chicago, children lived in areas with higher concentrations of poverty. As such, findings from Roy and colleagues (2019) highlight the existence of heterogeneity in youths' exposure to various types of economic hardship throughout their life, within the context of severely under-resourced neighborhoods. It could be that investments in high quality early childhood classrooms may be purposefully made in locations where the need is generally high across the majority of residents. As such, there may be higher quality Head Start classrooms present in neighborhoods that are more homogenous in terms of income (i.e., lower neighborhood income inequality). Normally, equal distribution of resources is considered good, but in the case of CSRP preschoolers, there may have been an even distribution of a *lack* of resources across residents within neighborhoods. This common lived experience may be seen as the status quo, whereas a contrast in lived experiences across individuals within the same neighborhood lends itself more to motivating youth to challenge systemic inequities (i.e., sociopolitical efficacy).

Other dimensions of environmental factors related to early childhood education should also be included in future research on predictors of teens' critical consciousness. In a recent

study with over a million children who attended public preschools in North Carolina, Watts and colleagues (2023) examined interactions between the level of investment in preschools and classroom environments (e.g., classroom quality, teaching experience, and teacher-to-student ratio) on long-term outcomes. Overall, increased funding for preschools was found to be predictive of better academic achievement during middle childhood. Also, attending a preschool with more funding tended to compensate for attending a lower quality school and lack of experience among teachers.

In addition to neighborhood characteristics, future research could consider the roles of alternative aspects of young children's lives at school and home. For instance, measures of both classroom quality and teacher-student relationships should be examined as predictors of older children's prosocial behavior (e.g., Ansari et al., 2020). Interpersonal relationships with teachers and peers in the preschool classroom setting tend to play a larger role in the long-term development of children's prosocial and self-regulatory growth, compared to the classroom practices that were captured in the present study (i.e., general teacher responsiveness and sensitivity; Ansari et al., 2020; Berry & O'Connor, 2010; Sabol et al., 2018). For example, in their study with children from under-resourced backgrounds, Peisner-Feinberg and colleagues (2001) found that closer teacher-child relationships in both preschool and kindergarten predicted better attention, fewer problem behaviors, and better sociability when children were in the second grade. Furthermore, Sabol and colleagues (2018) found that among a sample of predominantly Black and Latino preschoolers from under-resourced backgrounds, positive engagement with peers (i.e., sociability, assertiveness, communication, and conflict) led to significantly improved inhibitory control and language skills by the end of the school year, above and beyond classroom quality.

Moreover, family environments have often been found to play an important role in shaping children's development of prosocial behavior and self-regulation over time. A robust body of research suggests that warm, supportive, and responsive parenting practices have often been found to promote prosocial behaviors and self-regulation among children (e.g., Eisenberg et al., 2006; Grolnick et al., 2019; Laible et al., 2016; Newton et al., 2014). For example, a recent study by Gülseven and colleagues (2021) found that sensitive parenting practices from both mothers and fathers during early childhood positively shaped children's cooperation and self-control during middle childhood. It could be that children raised in warm and supportive homes are exposed to greater sympathetic responding from family members, which may further foster their prosocial development (Carlo & DeGuzman, 2009). Also, sensitive parenting practices are posited to be internalized by young children, pushing them to be more intrinsically motivated to engage in self-control (Grolnick et al., 2019).

Overall, more research is needed to determine how contextual factors during early childhood may be linked to older children's prosocial behavior and teens' critical consciousness, and to further reflect on the counterintuitive results found in the present study. Complex interactions among contextual factors may explain aspects of sociopolitical development. Comprehensive research is needed to examine how early childhood educational settings longitudinally shape children's prosocial and self-regulatory development within the contexts of under-resourced neighborhoods, while accounting for interactions with contextual factors in schools and homes. Given that some dimensions of critical consciousness involve anti-racist actions (Bañales et al., 2019; Diemer et al., 2021), future research should take Head Start's evolving commitment to anti-racist approaches in early childhood educational spaces into

account (García Coll et al., 2021; HHS, 2023). Some of these may even require educators' own critical reflection dialogue in professional development spaces (Allen et al., 2021).

Furthermore, new research might explore the development of early childhood classroom quality measures that more precisely gauge how such settings might operate as democratic contexts (Astuto & Ruck, 2010), especially given social movements (Romanow, 2020) and research (Reifen-Tagar & Cimpian, 2022) in recent years. For instance, there is a small but growing set of civic engagement and political psychology scholars who highlight the importance of research on early childhood as a time during which foundations of sociopolitical development and political thought are forming via the development of social and cognitive skills (Reifen-Tagar & Cimpian, 2022). Preschool classrooms are often grounds for young children to begin socializing with new peers outside of their families (Bronfenbrenner, 1977; Rimm-Kaufman & Pianta, 2000). Astuto and Ruck (2010) specify that engaging in play may provide young children with a template for a democratic society. In other words, during play time with peers, young children are given the opportunity to practice being an active agent of a group, contribute to problem solving, and follow rules, ultimately strengthening their prosocial and executive functioning skills. Astuto and Ruck (2010) theorize that these skills and behaviors are utilized in civic engagement among adolescents. Newly developed measures of classroom quality might capture the particular kinds of play and peer-to-peer interactions that promote later critical consciousness.

Similar to academic instruction being particularly predictive of math and literacy skills, more specific measures or dimensions (e.g., teacher sensitivity) of classroom quality that capture a teacher's emphasis on altruism may especially lay the groundwork for later prosocial behavior and critical consciousness. There have been well-documented benefits of high quality classrooms

as measured here (Broekhuizen et al., 2016; Duncan, 2003; Hamre et al., 2014; Peisner-Feinberg et al., 2001; Pianta et al., 2021; Sabol et al., 2020; Schmerse, 2020), but the focus of such classrooms may be more on individual student success (e.g., greater academic achievement, fewer behavior problems), rather than on classmates voluntarily helping one another (e.g., prosocial skills).

Preschoolers' Prosocial Skills Predicting Adolescents' Critical Consciousness

Unlike the findings for preschool classroom quality, prosocial skills in early childhood were associated with teens' critical action in the positive direction. Both Reifen-Tagar and Cimpian (2022) and Astuto and Ruck (2010) indicate early prosocial behaviors to serve as rudimentary aspects of civic actions later in life, which is in line with the finding that preschoolers' prosocial behaviors predicted their engagement in critical action during adolescence. In their review, Reifen-Tagar and Cimpian (2022) theorize that young children have the capacity to engage in "proto-political cognition," or have a basic understanding of intra- and inter-group dimensions (e.g., hierarchies and social norms), and use these understandings to guide their thoughts and behaviors. According to Reifen-Tagar and Cimpian (2022), young children's "proto-political cognition" may map onto political ideologies commonly found among adults (i.e., belief systems about group social orders), which are found to shape sociopolitical beliefs (Jost et al., 2009) and actions (Marchand et al., 2021). As such, children are able to detect and act upon social norms within groups, as well as between different groups (e.g., in-group preferences; Dunham et al., 2008). This work is similar to that of Astuto and Ruck (2010), which suggests that sociopolitical adjustment may manifest through the development of prosocial behavior and self-regulation, as well as a few empirical studies including early prosocial skills on pathways towards civic engagement activities in adolescence and adulthood (Eisenberg et al.,

2013; Holbein, 2017; Kitchens & Gormley, 2023). Still, more research is necessary to conclude the types of prosocial motivations (self- or other-oriented; see Eisenberg et al., 2006) that bolster one's ability to engage in critical reflection, sociopolitical efficacy, and critical action.

Additionally, there was a marginal, positive relation between preschoolers' prosocial behavior and adolescents' sociopolitical efficacy. A positive association from prosocial behavior to sociopolitical efficacy is reflective of theories examining the childhood roots of social responsibility (i.e., placing value on contributing to the greater good; see Wray-Lake & Syvertsen, 2011). According to Wray-Lake and Syvertson (2011), social responsibility refers to values that motivate civic actions, grounded in relationships with others as well as care and justice morality principles. Wray-Lake and Syvertson (2011) identified prosocial behaviors as competencies that may precede or grow along-side social responsibility development during childhood and adolescence.

Before turning to the contributions of middle childhood competencies of critical consciousness, it is worth noting a third set of results where expected linkages between early and middle childhood competencies emerged. Not surprisingly, preschoolers' prosocial behavior and executive function were related to school-age children's cognitive regulation, and prosocial behavior in early childhood was marginally associated with prosocial behavior in middle childhood. These findings are congruent with literature indicating prosocial behaviors during middle childhood to be shaped by prosocial skills during early childhood (Eisenberg et al., 1999; Eisenberg et al., 2013; Eisenberg et al., 2004), as well as cross-sectional research suggesting that advances in prosocial skills may foster self-regulatory development (Fabes et al., 1999). Still, the present study adds to the broader sociopolitical literature in two important ways.

The Contribution of Middle Childhood Competencies to Teens' Critical Consciousness

In a fourth set of findings, prosocial behavior in middle childhood predicted critical action in adolescence, and cognitive regulation during middle childhood explained sociopolitical efficacy in the teen years. Similar to the findings for early childhood competencies, these results extend the existing literature on critical consciousness among minoritized teens in the U.S., which has largely ignored the role of developmental periods prior to adolescence. More specifically, this dissertation is the first to depict how school-aged children's prosocial behaviors serve as foundations for engaging in actions that challenge systemic inequities, and how elementary school students' cognitive regulation fosters the ability to believe that one can make positive and lasting change.

Detecting a relation between cognitive regulation and sociopolitical efficacy across middle childhood and adolescence is especially novel. This result is in line with scholars who have suggested that there are cognitive underpinnings for engagement in critically conscious beliefs (see Heberle et al., 2020; Mosley et al., 2021; Wray-Lake & Ballard, 2023). Results indicating cognitive self-regulation as a precursor for sociopolitical efficacy highlight that the development of planning and problem solving skills (i.e., cognitive self-regulation) during middle childhood may be essential when fostering a sense of one's belief that they can challenge systemic inequities. In other words, youth might need to engage in the internal processes of problem solving and planning to find effective ways to address systemic inequities. Such processes may ultimately fuel intrinsic motivation and belief in the ability to create positive, lasting change. By strengthening one's cognitive self-regulatory skills during middle childhood, youth may be better equipped to reinforce their sociopolitical efficacy later in adolescence.

The association found between prosocial behavior and critical action across middle childhood and adolescence is congruent with longitudinal work predicting civic action among Northern Irish youth by Taylor and colleagues (2019). The present study suggests that the tendency to engage in actions that benefit others (i.e., prosocial behaviors) may underly one's decision to speak up about social justice issues and protest against inequitable social structures (i.e., critical action). It could be that successfully engaging in actions that benefit others during middle childhood provides teens with the lived experience and evidence necessary to empower them to help others at a broader societal level. In addition, prosocial skills may provide older children with the tools required to develop deeper connections with others during adolescence (Carlo et al., 2022; Davis et al., 2021). Ultimately, this may further older children's engagement with and their understanding of the experiences of others, both in and out of their communities. As such, practicing prosocial tendencies during elementary school may ultimately equip teens with the skills required to care for and help larger groups of people of varying backgrounds.

Taken together, the results for preschoolers' prosocial behavior and school age children's prosocial skills and cognitive regulation are in line with the work of civic engagement and political psychology scholars who have theorized prosocial behaviors and self-regulation as a launching pad for later civic engagement (Astuto & Ruck, 2010; Reifen-Tagar & Cimpian, 2022; Wray-Lake Syvertson, 2011). These findings are also congruent with scholarly discourse regarding the prosocial and self-regulatory underpinnings of civic engagement development among Black and Latino youth and adults (e.g., Carlo et al., 2022; Mosley et al., 2021), as well as a small set of literature examining ways in which children's competencies adapt over time within frameworks of civic engagement (e.g., Eisenberg et al., 2013). Still, it should be noted that the lines of existing research above focus on civic engagement behaviors, which comply

with existing social structures (e.g., Holbein, 2017). In contrast, the current study is the first to provide empirical evidence to suggest that early and middle childhood may be critical periods for aspects of sociopolitical development that involve beliefs and actions that challenge the status quo (Watts et al., 2011). Future research could investigate ways in which prosocial behaviors at a young age set the stage for social justice-oriented thoughts and actions later in life, within and across various identity groups (e.g., defined in terms of race, ethnicity, culture, religion).

Much of the empirical research conducted examining potential predictors of critical consciousness have focused on pedagogical practices, while individual competencies have only been speculated to serve as underpinnings of critical consciousness. As such, findings from the present study may provide major contributions to the field of sociopolitical development. The results from the present study provide empirical evidence for largely recent non-empirical research on prosocial behaviors and self-regulatory skills as antecedents of promoting social justice and engaging in actions which challenge systemic inequities among minoritized youth (Astuto & Ruck, 2010; Carlo et al., 2022; Davis et al., 2021; Heberle et al., 2020; Mosley et al., 2021; Wray-Lake & Ballard, 2023). Future research on pedagogical practices and critical consciousness should incorporate children's competencies, such as children's prosocial and self-regulatory adjustment.

Pathways from Early Childhood Factors to Adolescent Critical Consciousness

The current study was underpowered to detect whether middle childhood competencies explained how critical consciousness might be explained by preschool classroom quality and competencies. Thus, it is not surprising that there were null indirect findings for associations from classroom quality in early childhood to critical consciousness during the teen years through prosocial behavior and cognitive regulation during middle childhood. Still, even with more

statistical power, it could be that future research should focus more on familial and cultural experiences. Young children's competencies are often shaped via social interactions with caregivers in the home, and are not solely characteristics that children are born with or learn at school (Hay & Cook, 2007; Cabrera, 2013; Grolnick et al., 2019; Gülseven et al., 2021). Therefore, future research might delve into ways in which racially and ethnically minoritized families from under-resourced communities might set the stage for pathways to critical consciousness, outside of their educational journey.

Particularly among Black children, racial socialization practices from family members may set the stage for later civic engagement development (Anyiwo et al., 2023; Karras-Jean Gilles et al., 2020). Racial socialization often refers to exposure to cultural practices, promoting pride and knowledge about African American culture, as well as ways to cope and succeed in a mainstream society that has had historic and systemic deleterious effects on Black communities (Hughes et al., 2006). A recent empirical study with Black families found racial socialization practices during early childhood to be positively predictive of positive youth development (i.e., indicator of civic development; Karras-Jean Gilles et al., 2020) in the 8th grade. Another study found that parents' racial socialization messages and practices fostered Black adolescents' awareness and understanding of racial inequity, motivation to address racism, and engaging in actions to promote racial justice (Anyiwo et al., 2023).

Furthermore, youth of color from immigrant families may often times engage in critical consciousness that is unique to the immigrant experience, and therefore may display different types and varying levels of action. For example, there may be structural barriers to engaging in certain types of critical action (e.g., protesting) for immigrant youth of color who are undocumented, or have family members who are undocumented, as they may feel the need to

"stay out of trouble" (Arce et al., 2020). Additionally, first- and second-generation immigrants often times hold positive views towards their host society, leading to beliefs that American society is fair (Godfrey & Wolf, 2016). As such, instead of taking part in conventional displays of activism (e.g., protesting), it may often times feel safer and more conducive to focus on building and supporting one's immigrant community through service efforts (Arce et al., 2022).

Moreover, some families and cultures may particularly value altruistic helpful behaviors. For example, Latino immigrant families have often been found to place a high level importance on caring for the broader interests of the family (i.e., *familismo*), including actions such as supporting family members, helping with household tasks, and assisting in the care of younger siblings (Calderón-Tena et al., 2011). Outside of the home, it is possible that these actions translate into helping in a variety of contexts (Carlo et al., 2022; Knight & Carlo, 2012). One motivation for behaving in a prosocial manner is altruism, where individuals may want to help another person without any benefit for themself, and which often-times comes at a personal cost in order to benefit others (Carlo & Randall, 2002). Engaging in critically conscious thoughts and behaviors have been found to be both cognitively and emotionally taxing (Diemer et al., 2010; Fernández & Watts, 2023; Godfrey et al., 2019), yet individuals may remain motivated to continue acting against systemic issues for the betterment of their own and other minoritized individuals' communities (Carlo et al., 2022).

Overall, the examples provided above only touch the surface of the heterogeneity which exists within communities of color, as racial, ethnic, and immigrant identities often intersect. As such, future research should highlight the intersectionality of marginalized youth when examining the development of critical consciousness across the lifespan. Some ways to do so

would be by including racial socialization practices, immigration experiences, and cultural values within future frameworks of critical consciousness development.

Prosocial Skills in Early Childhood, Cognitive Regulation in Middle Childhood, and Critical Consciousness in Adolescence

As with the first set of indirect models, it is not remarkable that there were mostly null indirect findings when examining early childhood competencies instead of early childhood classroom quality as the main predictors of interest. Still, there were two simultaneous mediator findings. In one instance, school-age children's prosocial behavior and cognitive regulation simultaneously mediated the relation between prosocial skills in preschoolers' and teens' sociopolitical efficacy. Marginal specific indirect findings suggest that cognitive regulation was a salient mediator for sociopolitical efficacy. In another instance, there was simultaneous mediation of the association between prosocial skills during early childhood and critical action during adolescence. Interestingly, there were marginal results suggesting simultaneous mediation in the pathway from preschoolers' executive function to teens' sociopolitical efficacy and critical action. Similarly, there was a trend level specific indirect effect identifying cognitive regulation as a salient mediator when explaining sociopolitical efficacy in adolescence.

Overall, indirect linkages highlighted pathways from young Black and Latino children's prosocial and executive functioning skills to their sociopolitical efficacy and critical action. These findings are in line with theories positing the existence of prosocial and self-regulatory roots of sociopolitical development (Astuto & Ruck, 2010; Carlo et al., 2022; Reifen-Tagar & Cimpian, 2022; Wray-Lake & Syvertson, 2011). Moreover, these novel findings provide empirical evidence to support claims that pathways to civic engagement may begin as soon as early childhood. The present study takes a step further by investigating social and emotional

competencies as foundations for feeling motivated and engaging in actions to create a more just world.

Young children's prosocial and self-regulatory skills promoted teens' ability to believe that they can enact positive social change (i.e., sociopolitical efficacy), and engage in actions that challenge inequities (i.e., critical action). The mechanisms by which these linkages occurred were explained by children's tendency to behave prosocially, as well as plan and problem solve, during middle childhood. Findings indicated prosocial behavior and cognitive self-regulation during middle childhood to be mutually reliant upon one another in mediating the pathways from young children's prosocial skills to their sociopolitical efficacy and critical action.

Prosocial morality scholars suggest that over time, prosocial responding evolves into internalized sets of principles and norms for caring for others (Carlo & Pierotti, 2020; Eisenberg et al., 2006; Jensen, 2020; Mayseless, 2020). Therefore, it could be that engaging in prosocial actions from early through middle childhood allow for children to practice thinking about the needs of others, ultimately facilitating their development of a deeper understanding of how they and other individuals of various backgrounds fit into the world during adolescence (see Carlo et al., 2022; Erikson, 1968; Mayseless, 2020). Furthermore, by practicing rudimentary prosocial behaviors from an early age, children may be set on a trajectory towards finding ways to benefit others, appropriately addressing issues to achieve successful results, and creating plans for action throughout childhood. Returning to the notion that prosocial behaviors may set the stage for developing deeper connections with others (see Carlo et al., 2022; Davis et al., 2021), it could be that prosocial skills during preschool lay the groundwork for problem solving and planning skills alongside likeminded individuals who come from diverse backgrounds.

Although the results for executive function were detected at a trend level, growth in executive functioning in early childhood (e.g., focusing one's attention in the classroom and meeting classroom behavioral expectations) may assist children in interacting with others with different perspectives and diverse backgrounds. It could be that young children's ability to pay attention and ignore distractions better equip them with the ability to notice when others are in need of help (e.g., noticing a peer fall on the playground while playing a game). Such skills may facilitate one's ability to deeply connect and form close relationships with others while in school (e.g., focusing on what one friend has to share rather than being distracted by others). In addition, using their skills to pay attention and focus on a task at hand may foster children's ability to plan and problem solve efficiently.

Upon transitioning to adolescence, a new set of social contexts often provide more opportunities to care for one's community through civic engagement and contributing to social justice and equity causes (Eisenberg et al., 1995; Eisenberg et al., 2013). Seeing as social movements require more than just one person to be present in order to challenge inequitable social structures, tackling these issues as part of a community may help teens feel motivated and believe they have the ability to successfully enact change (Carlo et al., 2022). Even though most of the indirect findings were marginally significant, both prosocial and cognitive self-regulatory skills seem to serve as important components of pathways to sociopolitical efficacy. Overall, prosocial behaviors and executive functions that emerge from a young age, and are built upon throughout childhood, may serve as early building blocks for sociopolitical efficacy later in life among Black and Latino youth.

After transitioning into adolescence, prosocial and self-regulatory skills may facilitate teens' ability to prepare for and engage in critical action (e.g., going to a protest in response to an

inequitable act) when given the opportunity to do so. For example, Mosley and colleagues (2021) found that when acting critically against anti-Black racism, activists indicated the need to "have urgency" when responding to injustices, but to not be reactive in their responses. In other words, activists described the need plan strategically, but to execute their response rapidly (Mosley et al., 2021). Therefore, young Black and Latino children's prosocial and executive functioning skills may provide the caring and planning tools necessary for engaging in actions that challenge systemic inequities later on during adolescence.

Still, it is imperative to *not* assume that the role of making the world a more equitable place should land on the shoulders of marginalized youth and communities. Importantly, it should also be noted that although children are born with the capacity to engage in prosocial tendencies, a robust set of theory (García Coll et al., 1996; Hay & Cook, 2007) and literature (Ansari et al., 2020; Berry & O'Connor, 2010; Cabrera, 2013; Calderón-Tena et al., 2011; Chung et al., 2019; Eisenberg et al, 2006; Gülseven et al., 2021; Jambon et al., 2019; Knight & Carlo, 2012; Laible et al., 2017; Newton et al., 2014; Sabol et al., 2018; Stein et al., 2014; Ulber et al., 2016) have determined that racially and ethnically minoritized young children's interactions with family members, educators, and peers all serve as scaffolds for their prosocial development over time.

Thus, even more complex models of critical consciousness development are needed in future research. Indeed, a plethora of external cultural and financial stressors experienced by families may shape the development of children and teens' prosocial development (Cabrera, 2013; Calzada et al., 2019; Davis et al, 2016; Galindo & Fuller, 2010; Knight & Carlo, 2012; Lorenzo-Blanco et al., 2016; Naqi, 2020; Tran, 2014). Future research should continue to examine ways in which environmental factors, such as parenting and cultural socialization, might

interact with pathways from children's prosocial behavior to their critical consciousness later in life. Furthermore, the need for allyship and co-conspiratorship of privileged individuals and communities in positions of power remains when laboring towards upending inequitable systems (Diemer et al., 2016; Freire, 1970).

Limitations

There are some limitations to consider when interpreting the findings of this study. The first limitation concerns the type of prosocial behavior measures utilized during both early and middle childhood. Although both measures adequately included items related to voluntarily engaging in actions that benefit others, prosocial development scholars are moving towards methods of measurement that capture various motivations behind behaving in a prosocial manner (i.e., self- or other-motivated; Eisenberg et al., 2006). By using this method, researchers may capture the tendency for youth from diverse backgrounds to engage in prosocial behavior in various contexts, and further understand the reasoning behind children and youth's helping behaviors. For example, the Prosocial Tendencies Measure (PTM; Carlo & Randall, 2002) measures whether motivations for youth's engagement in prosocial behavior are *altruistic* (i.e., intrinsic want to help another person, regardless of personal cost), *compliant* (i.e., responding to a request to help), *emotional* (i.e., helping due to an emotionally evocative situation), *public* (i.e., helping to gain the approval of others), or *dire* (i.e., helping in a crisis or emergency situation). Therefore, future research could aim to capture various reasonings behind prosocial tendencies in order to further understand the mechanisms by which prosocial behavior as a multidimensional construct serves as a foundation for critical consciousness development.

The second limitation of this study was related to the count measure employed to capture critical action during adolescence. Although the critical action measure utilized in the present

study prompted participants to indicate whether they engaged in critical actions, this measure did not capture the complexity behind the quantity, meaning of, intention of, nor quality of the actions that participants engaged in (Diemer et al., 2019). Also, engaging in critical action may be exhibited differently among youth with diverse backgrounds and identities (Arce et al., 2022; Wilf et al., 2022), as critical action may often vary in severity of consequences (e.g., low-cost vs. high-cost). As such, future research should incorporate qualitative approaches in addition to quantitative methods in order to capture different types of critical action, how often teens engage in critical action, as well as the intentions for youth's critical action.

Lastly, the third limitation of this study is that it is specific to Black and Latino youth from high-poverty backgrounds in a large urban setting, who were undergoing the transition to adolescence during the Trump presidency (Pew Research Center, 2021). Therefore, the generalizability of these results may be limited to this population, and may not be transferrable to youth of other backgrounds or to youth growing up in different time periods. Still, intersecting identities are posited to play a role in the development of youth's critical consciousness (Godfrey & Burson, 2018) and few studies examine critical consciousness development among this population (Uriostegui et al., 2021). By focusing on a more specific population, findings from this dissertation enable the examination of heterogeneity among Black and Latino youth from under-resourced neighborhoods in Chicago. Furthermore, future studies should continue to explore ways in which young children's environments, as well as their prosocial and self-regulatory competencies, serve as foundations for critical consciousness among adolescents of diverse backgrounds, and who live in different environmental settings (e.g., suburban or rural setting) and across chronological contexts (e.g., pre- vs. post-Trump era).

Conclusion

Scholars have discussed the need to learn more about the childhood foundations of critical consciousness development (Carlo et al., 2022; Heberle et al., 2020; Seider et al., 2020), and sociopolitical development scholars in particular have called for more research utilizing multidimensional approaches to understanding critical consciousness (Diemer, 2020; Diemer et al., 2021). This dissertation made key contributions to multiple existing bodies of literature by answering that call with empirical evidence on the ways that teens' sociopolitical efficacy and critical action are shaped by factors from earlier phases of life. Furthermore, this study integrated literature from developmental psychology and sociopolitical development, where critical consciousness was viewed from a developmental perspective across the periods of early childhood, middle childhood, and adolescence. In doing so, the results illustrate how social and emotional competencies are linked across the life span. Although there were some findings for cognitive regulation, the overall findings from this dissertation underscore the importance of investing in efforts that support the development of younger and older children's prosocial behavior, as it appears to equip youth with the tools necessary to challenge inequities around them later in life.

During the last decade, there has been an unprecedented increase in grassroots level organizing, with many youth joining the front lines of social justice movements and speaking out against the occurrence of injustices (Romanow, 2020). Upon examination of pathways to engaging in social justice-oriented thoughts and behaviors, this dissertation found that young children's prosocial skills play a salient role in setting the foundation for critical consciousness among Black and Latino adolescents growing up in high-poverty neighborhoods. Future frameworks and studies should build on this investigation by taking an even more

comprehensive approach at understanding how both early childhood competencies and experiences in classrooms, schools, homes, and neighborhoods may set young children on pathways towards developing the ability to understand, reflect upon, and act against systemic inequities across the life span.

APPENDIX A

MULTILEVEL MODEL FINDINGS

When minimal ICC values ($\rho < .05$) are present, it is still recommended to account for clustering using MLM, as the Type I error rate may be inflated (Huang, 2018; Tabachnick & Fidell, 2013). As such, supplementary multilevel models for pathways to critical reflection and sociopolitical efficacy including all covariates are provided here, in Appendix. The number of parameters exceeded the capacity to estimate a multi-level Poisson regression for critical action (Muthén & Muthén, 2017).

The multilevel analyses were conducted with 2 levels in order to cluster participants based on their Head Start classroom at baseline (see Table 16; Kelloway, 2014). The CSRP sample consists of 3 potential levels (i.e., site-, classroom-, and student-level), as CSRP treatment status was assigned at the site level. Yet, a 2-level model was utilized where participants were clustered by classroom due to small intraclass correlation (ICC) values indicating that a third level would not explain much variance beyond what is explained at the first and second levels (J. Shapiro, personal communication, June 1, 2023). Furthermore, given that the main predictor of interest (i.e., classroom quality) was a classroom-level variable, participants were clustered based on their classroom membership, rather than the sites in which their classrooms were located (J. Shapiro, personal communication, June 1, 2023).

Table 16. Variables Listed by Level and Wave

Level	Variables
Level 2: Classroom	*Wave 1*
	Classroom Quality
	CSRP Cohort
	CSRP Treatment Status
Level 1: Participant	*Wave 1*
	Gender
	Race/Ethnicity
	Income-to-Needs Ratio
	Prosocial Behavior
	Executive Functioning
	Effortful Control
	Wave 2
	Prosocial Behavior
	Cognitive Self-Regulation
	Wave 3
	Age
	Critical Reflection
	Sociopolitical Efficacy
	Critical Action

Two Level Multiple Regression Model Findings

Table 17. Two Level Model Predicting Teens' Critical Reflection and Sociopolitical Efficacy from Preschool Classroom Quality

Pathways	β	SE	95% CI	*p*
EC-CQ → AD-CR	-0.23	0.43	[-0.15, 0.07]	.60
Control Variables → AD-CR				
Age	-0.08	0.09	[-0.35, 0.09]	.40
Gender	0.03	0.06	[-0.16, 0.26]	.67
Race/Ethnicity	-0.06	0.08	[-0.45, 0.17]	.46
INR	0.09†	0.05	[0.01, 0.33]	.07
Cohort	-0.25	0.77	[-0.46, 0.27]	.74
Treatment Status	0.37	0.52	[-0.13, 0.35]	.48
EC-PB	-0.07	0.06	[-0.21, 0.04]	.26
EC-EF	0.02	0.07	[-0.12, 0.19]	.75
EC-EC	0.03	0.08	[-0.11, 0.28]	.65
EC-CQ → AD-SE	-0.61**	0.22	[-1.01, 0.26]	.01
Control Variables → AD-SE				
Age	-0.03	0.08	[-0.14, 0.11]	.64
Gender	0.07	0.06	[-0.02, 0.17]	.21
Race/Ethnicity	-0.04	0.04	[-0.11, 0.03]	.31
INR	-0.09	0.06	[-0.19, 0.01]	.16
Cohort	-0.69*	0.30	[-1.21, -0.12]	.02
Treatment Status	-0.30	0.23	[-0.72, 0.06]	.18
EC-PB	0.15†	0.08	[0.01, 0.27]	.06
EC-EF	0.02	0.07	[-0.09, 0.15]	.82
EC-EC	0.07	0.06	[-0.03, 0.18]	.28

Note. Two level multiple regression analyses were conducted. Models controlled for participants' age, gender, race/ethnicity, INR, CSRP cohort, and CSRP treatment status, as well as preschoolers' prosocial behavior (EC-PB), executive functioning (EC-EF), and effortful control (EC-EC). Standardized path estimates (β) with standard errors (SE), 95% confidence intervals (CI), and two-tailed *p*-values are reported (*p*); EC-CQ = preschool classroom quality; AD-CR = critical reflection; AD-SE = sociopolitical efficacy; AD-CA = critical action.
†$p < .10$. *$p < .05$

Table 18. Two Level Model Predicting Prosocial Behavior and Cognitive Self-Regulation During Middle Childhood from Preschool Classroom Quality

Variables	β	SE	95% CI	*p*
EC-CQ → MC-PB	-0.94	0.66	[-1.91, 0.10]	.16
Control Variables → MC-PB				
Age	-0.04	0.08	[-0.18, 0.09]	.59
Gender	0.13†	0.07	[0.01, 0.25]	.06
Race/Ethnicity	-0.12	0.07	[-0.24, 0.01]	.10
INR	0.07	0.05	[-0.01, 0.15]	.16
Cohort	-0.24	0.72	[-1.42, 0.93]	.75
Treatment Status	-0.07	0.47	[-0.81, 0.71]	.88
EC-PB	0.12†	0.06	[-0.02, 0.22]	.05
EC-EF	0.09	0.06	[-0.01, 0.19]	.15
EC-EC	0.08	0.08	[-0.04, 0.21]	.27
EC-CQ → MC-CS	-0.11	0.39	[-0.75, 0.53]	.78
Control Variables → MC-CS				
Age	-0.27**	0.07	[-0.39, -0.15]	.00
Gender	0.14*	0.07	[0.03, 0.25]	.04
Race/Ethnicity	-0.06	0.07	[-0.18, 0.05]	.37
INR	0.08	0.06	[-0.01, 0.17]	.15
Cohort	-0.79**	0.18	[-1.09, -0.49]	.00
Treatment Status	0.06	0.31	[-0.45, 0.57]	.84
EC-PB	0.22**	0.06	[0.12, 0.32]	.00
EC-EF	0.16*	0.07	[0.05, 0.28]	.02
EC-EC	0.08	0.07	[-0.02, 0.19]	.18

Note. Two level multiple regression analyses were conducted. Models controlled for participants' age, gender, race/ethnicity, INR, CSRP cohort, and CSRP treatment status, as well as preschoolers' prosocial behavior (EC-PB), executive functioning (EC-EF), and effortful control (EC-EC). Standardized path estimates (β) with standard errors (SE), 95% confidence intervals (CI), and two-tailed *p*-values are reported (*p*); EC-CQ = preschool classroom quality; MC-PB = middle childhood prosocial behavior; MC-CS = middle childhood cognitive self-regulation.
†$p < .10$. *$p < .05$. **$p < .01$

Table 19. Two Level Model Predicting Teens' Critical Reflection and Sociopolitical Efficacy from Prosocial Behavior and Cognitive Self-Regulation During Middle Childhood

Pathways	β	SE	95% CI	*p*
MC-PB → AD-CR	0.11†	0.06	[0.01, 0.21]	.08
MC-CS → AD-CR	0.06	0.08	[-0.07, 0.18]	.47
Control Variables → AD-CR				
Age	0.01	0.11	[-0.17, 0.19]	.93
Gender	0.01	0.07	[-0.10, 0.11]	.99
Race/Ethnicity	-0.04	0.08	[-0.16, 0.09]	.65
INR	0.09†	0.05	[0.01, 0.17]	.06
Cohort	0.11	0.49	[-0.71, 0.93]	.82
Treatment Status	0.19	0.38	[-0.43, 0.82]	.61
EC-PB	-0.09	0.06	[-0.19, 0.01]	.14
EC-EF	0.01	0.07	[-0.11, 0.12]	.94
EC-EC	0.01	0.09	[-0.15, 0.16]	.98
Classroom Quality	-0.16	0.32	[-0.68, 0.36]	.61
MC-PB → AD-SE	0.10	0.06	[-0.01, 0.21]	.11
MC-CS → AD-SE	0.18*	0.08	[0.05, 0.32]	.02
Control Variables → AD-SE				
Age	-0.01	0.08	[-0.13, 0.13]	.96
Gender	0.03	0.07	[-0.08, 0.14]	.64
Race/Ethnicity	-0.02	0.05	[-0.10, 0.07]	.73
INR	-0.11	0.07	[-0.22, 0.01]	.11
Cohort	-0.69*	0.30	[-1.19, -0.18]	.02
Treatment Status	-0.31	0.19	[-0.62, 0.01]	.10
EC-PB	0.10	0.08	[-0.03, 0.24]	.22
EC-EF	-0.01	0.08	[-0.15, 0.12]	.84
EC-EC	0.04	0.06	[-0.07, 0.15]	.55
Classroom Quality	-0.62**	0.21	[-0.96, -0.27]	.01

Note. Two level multiple regression analyses were conducted. Models controlled for participants' age, gender, race/ethnicity, INR, CSRP cohort, and CSRP treatment status, as well as preschoolers' prosocial behavior (EC-PB), executive functioning (EC-EF), effortful control (EC-EC), and classroom quality (EC-CQ). Standardized path estimates (β) with standard errors (SE), 95% confidence intervals (CI), and two-tailed *p*-values are reported (*p*); EC-PB = prosocial behavior; EC-EF = executive functioning; EC-EC = effortful control; MC-PB = middle childhood prosocial behavior; MC-CS = middle childhood cognitive self-regulation; AD-CR = critical reflection; AD-SE = sociopolitical efficacy; AD-CA = critical action.

†$p < .10$. *$p < .05$

Table 20. Two Level Model Indirect Effects Predicting Teens' Critical Reflection and Sociopolitical Efficacy from Preschool Classroom Quality, Through Prosocial Behavior and Cognitive Self-Regulation During Middle Childhood

Pathways	*B*	SE	95% CI	*p*
Total Indirect Effects				
EC-CQ → MC-PB & MC-CS → AD-CR	-0.01	0.01	[-0.04, 0.01]	.23
EC-CQ → MC-PB & MC-CS → AD-SE	-0.01	0.02	[-0.05, 0.02]	.55
Specific Indirect Effects				
EC-CQ → MC-PB → AD-CR	-0.01	0.01	[-0.04, 0.01]	.23
EC-CQ → MC-CS → AD-CR	0.00	0.01	[-0.01, 0.01]	.96
EC-CQ → MC-PB → AD-SE	-0.01	0.01	[-0.03, 0.01]	.28
EC-CQ → MC-CS → AD-SE	0.00	0.01	[-0.03, 0.02]	.93

Note. Two level multiple regression analyses were conducted. Models controlled for participants' age, gender, race/ethnicity, INR, CSRP cohort, and CSRP treatment status, and preschoolers' prosocial behavior, executive functioning, and effortful control. Unstandardized path estimates (*B*) with standard errors (SE), 95% confidence intervals (CI), and two-tailed *p*-values are reported (*p*); EC-CQ = preschool classroom quality; MC-PB = middle childhood prosocial behavior; MC-CS = middle childhood cognitive self-regulation; AD-CR = adolescent critical reflection; AD-SE = adolescent sociopolitical efficacy.

Table 21. Two Level Model Indirect Effects Predicting Teens' Critical Reflection from Preschoolers' Prosocial and Self-Regulatory Skills, Through Prosocial Behavior and Cognitive Self-Regulation During Middle Childhood

Pathways	*B*	SE	95% CI	*p*
Simultaneous Indirect Effects				
EC-PB → MC-PB & MC-CS → AD-CR	0.03	0.02	[-0.01, 0.06]	.14
EC-EF → MC-PB & MC-CS → AD-CR	0.07	0.05	[-0.02, 0.16]	.19
EC-EC → MC-PB & MC-CS → AD-CR	0.12	0.09	[-0.03, 0.28]	.19
Specific Indirect Effects				
EC-PB → MC-PB → AD-CR	0.02	0.01	[-0.01, 0.03]	.17
EC-PB → MC-CS → AD-CR	0.01	0.02	[-0.02, 0.04]	.47
EC-EF → MC-PB → AD-CR	0.04	0.03	[-0.01, 0.08]	.18
EC-EF → MC-CS → AD-CR	0.03	0.05	[-0.05, 0.11]	.48
EC-EC → MC-PB → AD-CR	0.08	0.09	[-0.08, 0.24]	.39
EC-EC → MC-CS → AD-CR	0.04	0.08	[-0.09, 0.17]	.58

Note. Two level multiple regression analyses were conducted. Models controlled for participants' age, gender, race/ethnicity, INR, CSRP cohort, and CSRP treatment status, and preschool classroom quality. Unstandardized path estimates (*B*) with standard errors (SE), 95% confidence intervals (CI), and two-tailed *p*-values are reported (*p*); EC-PB = early childhood prosocial behavior; EC-EF = early childhood executive functioning; EC-EC = early childhood effortful control; MC-PB = middle childhood prosocial behavior; MC-CS = middle childhood cognitive self-regulation; AD-CR = adolescent critical reflection.

Table 22. Two Level Model Indirect Effects Predicting Teens' Sociopolitical Efficacy from Preschoolers' Prosocial Behavior and Self-Regulatory Skills, Through Prosocial Behavior and Cognitive Self-Regulation During Middle Childhood

Pathways	*B*	SE	95% CI	*p*
Simultaneous Indirect Effects				
EC-PB → MC-PB & MC-CS → AD-SE	0.04†	0.02	[0.01, 0.08]	.05
EC-EF → MC-PB & MC-CS → AD-SE	0.11†	0.06	[0.01, 0.21]	.08
EC-EC → MC-PB & MC-CS → AD-SE	0.15	0.14	[-0.08, 0.38]	.29
Specific Indirect Effects				
EC-PB → MC-PB → AD-SE	0.01	0.01	[-0.01, 0.03]	.26
EC-PB → MC-CS → AD-SE	0.03†	0.02	[0.01, 0.06]	.08
EC-EF → MC-PB → AD-SE	0.03	0.02	[-0.01, 0.07]	.28
EC-EF → MC-CS → AD-SE	0.08	0.05	[-0.01, 0.16]	.10
EC-EC → MC-PB → AD-SE	0.06	0.06	[-0.04, 0.15]	.36
EC-EC → MC-CS → AD-SE	0.09	0.14	[-0.06, 0.25]	.29

Note. Two level multiple regression analyses were conducted. Models controlled for participants' age, gender, race/ethnicity, INR, CSRP cohort, and CSRP treatment status, and preschool classroom quality. Unstandardized path estimates (*B*) with standard errors (SE), 95% confidence intervals (CI), and two-tailed *p*-values are reported (*p*); EC-PB = early childhood prosocial behavior; EC-EF = early childhood executive functioning; EC-EC = early childhood effortful control; MC-PB = middle childhood prosocial behavior; MC-CS = middle childhood cognitive self-regulation; AD-SE = adolescent sociopolitical efficacy.

† $p < .10$

REFERENCE LIST

Ahad-Legardy, B., & Poon, O. A. (2018). *Difficult Subjects: Insights and Strategies for Teaching About Race, Sexuality, and Gender.* Stylus Publishing, LLC.

Ahmed, S. F., Tang, S., Waters, N. E., & Davis-Kean, P. (2019). Executive function and academic achievement: Longitudinal relations from early childhood to adolescence. *Journal of Educational Psychology*, *111*(3), 446–458. https://doi.org/10.1037/edu0000296

Alfaro, E. C., Umaña-Taylor, A. J., Gonzales-Backen, M. A., Bámaca, M. Y., & Zeiders, K. H. (2009). Latino adolescents' academic success: The role of discrimination, academic motivation, and gender. *Journal of Adolescence*, *32*(4), 941–962. https://doi.org/10.1016/j.adolescence.2008.08.007

Allen, R., Shapland, D. L., Neitzel, J., & Iruka, I. U. (2021). Creating Anti-Racist Early Childhood Spaces. *Young Children*, *76*(2), 49-54. https://www.jstor.org/stable/10.2307/27095174

Ansari, A., Hofkens, T. L., & Pianta, R. C. (2020). Teacher-student relationships across the first seven years of education and adolescent outcomes. *Journal of Applied Developmental Psychology, 71*. https://doi.org/10.1016/j.appdev.2020.101200

Anyiwo, N., Anderson, R. E., Marchand, A. D., Diemer, M. A., & Garrett, J. M. (2023). They raised me to resist: Examining the sociopolitical pathways between parental racial socialization and Black youth's racial justice action. *Journal of Community & Applied Social Psychology,* 33(2), 270– 286. https://doi.org/10.1002/casp.2652

Arce, M. A., Bañales, J., & Kuperminc, G. P. (2022). Incorporating immigrant optimism into critical consciousness and civic development models: An integrative review and synthesis of civic action among immigrant youth of color in the United States. *Cultural Diversity and Ethnic Minority Psychology*. Advance online publication. https://dx.doi.org/10.1037/cdp0000575

Arce, M. A., Kumar, J. L., Kuperminc, G. P., & Roche, K. M. (2020). "Tenemos que ser la voz": Exploring resilience among Latina/o immigrant families in the context of restrictive immigration policies and practices. *International Journal of Intercultural Relations, 79,* 106–120. https:// doi.org/10.1016/j.ijintrel.2020.08.006

Astuto, J., & Ruck, M. D. (2010). Early childhood as a foundation for civic engagement. In L. R. Sherrod, J. Torney-Purta, & C. A. Flanagan (Eds.), *Handbook of research on civic engagement in youth.* (pp. 249–275). John Wiley & Sons, Inc. https://doi.org/10.1002/9780470767603.ch10

Astuto, J., & Ruck, M. D. (2017). Growing up in poverty and civic engagement: The role of kindergarten executive function and play predicting participation in 8th grade extracurricular activities. *Applied Developmental Science*, *21*(4), 301–318. https://doi.org/10.1080/10888691.2016.1257943

Bañales, J., Aldana, A., Richards-Schuster, K., Flanagan, C. A., Diemer, M. A., & Rowley, S. J. (2019). Youth anti-racism action: Contributions of youth perceptions of school racial messages and critical consciousness. *Journal of Community Psychology, 49*(8), 3079-3100. https://doi.org/10.1002/jcop.22266

Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin, 107*(2), 238-246. https://doi.org/10.1037/033-2909.107.2.238

Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin, 88*(3), 588-606. https://doi.org/10.1037/0033-2909.88.3.588

Berry, D., & O'Connor, E. (2010). Behavioral risk, teacher-child relationships, and social skill development across middle childhood: A child-by-environment analysis of change. *Journal of Applied Developmental Psychology, 31*(1), 1-14. https://doi.org/10.1016/j/appdev.2009.05.001

Blair, C. (2002). School readiness: Integrating cognition and emotion in a neurobiological conceptualization of children's functioning at school entry. *American Psychologist, 57*(2), 111. https://doi.org/10.1037/0003-066X.57.2.111

Blair, C., & Raver, C. C. (2015). School readiness and self-regulation: A developmental psychobiological approach. *Annual Review of Psychology, 66*, 711–731. https://doi.org/10.1146/annurev-psych-010814-015221

Blair, C., & Razza, R. P. (2007). Relating effortful control, executive function, and false belief understanding to emerging math and literacy ability in kindergarten. *Child Development, 78*, 647-663. http://dx.doi.org/10.1111/j.1467-8624.2007.01019.x

Broekhuizen, M. L., Mokrova, I. L., Burchinal, M. R., & Garrett-Peters, P. T. (2016). Classroom quality at pre-kindergarten and kindergarten and children's social skills and behavior problems. *Early Childhood Research Quarterly*, *36*, 212–222. https://doi.org/10.1016/j.ecresq.2016.01.005

Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist, 32*(7), 513–531. https://doi.org/10.1037/0003-066X.32.7.513

Burchinal, M., Vandergrift, N., Pianta, R., & Mashburn, A. (2010). Threshold analysis of association between child care quality and child outcomes for low-income children in pre-kindergarten programs. *Early Childhood Research Quarterly, 25*(2), 166-176. https://doi.org/10.1016/j.ecresq.2009.10.004

Bustamante, A. S., Dearing, E., Zachrisson, H. D., & Vandell, D. L. (2022). Adult outcomes of sustained high-quality early child care and education: Do they vary by family income? *Child Development, 93*(2), 502-523. https://doi.org/10.1111/cdev.13696

Cabrera, N. J. (2013). Positive development of minority children and commentaries. *Social Policy Report, 27*(2), 1-30.

Calderón-Tena, C. O., Knight, G. P., & Carlo, G. (2011). The socialization of prosocial behavioral tendencies among Mexican American adolescents: The role of familism values. *Cultural Diversity and Ethnic Minority Psychology, 17*(1), 98-106. https://doi.org/10.1037/a0021825

Calzada, E. J., Sales, A., & O'Gara, J. L. (2019). Maternal depression and acculturative stress impacts on Mexican-origin children through authoritarian parenting. *Journal of Applied Developmental Psychology, 63*, 65-75. https://doi.org/10.1016/j.appdev.2019.05.001

Campbell, F. A., & Ramey, C. T. (1994). Effects of early intervention on intellectual and academic achievement: A follow-up study of children from low-income families. *Child Development, 65*(2), 684-698. https://doi.org/10.2307/1131410

Carlo, G. (2014). The development and correlates of prosocial moral behaviors. In M. Killen & J. G. Smetana (Eds.), *Handbook of moral development., 2nd ed.* (pp. 208–234). Psychology Press. https://doi.org/10.4324/9780203581957.ch10

Carlo, G., & Conejo, L. D. (2019). Traditional and culture-specific parenting of prosociality in US Latino/as. In D. J. Laible, G. Carlo, & L. M. Padilla-Walker (Eds.), *The Oxford handbook of parenting and moral development.* (pp. 247-266). Oxford University Press.

Carlo, G., & De Guzman, M. R. T. (2009). Theories and research on prosocial competencies among US Latinos/as. In F. A. Villarruel, G. Carlo, J. M. Grau, M. Azmitia, N. J. Cabrera, & T. J. Chahin (Eds.), *Handbook of U.S. Latino psychology: Developmental and community-based perspectives*. (pp. 191–211). Thousand Oaks, CA: Sage Publications, Inc.

Carlo, G., Knight, G. P., & Davis, A. N. (2022). Kindness towards all: Prosocial behaviors to address U.S. Latino youth social inequities. *Advances in Child Development and Behavior, 63*, 129-148. https://doi.org/10.1016/bs.acdb.2022.04.002

Carlo, G., & Pierotti, S. (2020). The Development of Prosocial Motives. In L.A. Jensen (Ed.), The Oxford Handbook of Moral Development: An Interdisciplinary Perspective (pp. 27-51). Oxford University Press.

Carlo, G., & Randall, B. A. (2002). The development of a measure of prosocial behaviors for late adolescents. *Journal of Youth and Adolescence, 31*(1), 31–44. https://doi.org/10.1023/A:1014033032440

Center on the Developing Child at Harvard University (2011). *Building the Brain's "Air Traffic Control" System: How Early Experiences Shape the Development of Executive Function.* https://developingchild.harvard.edu/resources/building-the-brains-air- traffic-control-system-how-early-experiences-shape-the-development-of-executive- function/

Christens, B. D., & Dolan, T. (2011). Interweaving youth development, community development, and social change through youth organizing. *Youth & Society, 43*, 528–548. http://dx.doi.org/10.1177/0044118 X10383647

Chung, S., Zhou, Q., Anicama, C., Rivera, C., & Uchikoshi, Y. (2019). Language proficiency, parenting styles, and socioemotional adjustment of young dual language learners. *Journal of Cross-Cultural Psychology, 50*(7), 896-914. https://doi.org/10.1177/0022022119867394

Clonan-Roy, K., Jacobs, C. E., & Nakkula, M. J. (2016). Towards a model of positive youth development specific to girls of color: Perspectives on development, resilience, and empowerment. *Gender Issues, 33*, 96 –121. http://dx.doi.org/10.1007/s12147-016-9156-7

Cooper, S. M., Hurd, N. M., & Loyd, A. B. (2022). Advancing scholarship on anti-racism within developmental science: Reflections on the special section and recommendations for future research. *Child Development*, 93, 619– 632. https://doi.org/10.1111/cdev.13783

Curby, T. W., LoCasale-Crouch, J., Konold, T. R., Pianta, R. C., Howes, C., Burchinal, M., Bryant, D., Clifford, R., Early, D., & Barbarin, O. (2009). The relations of observed pre-K classroom quality profiles to children's achievement and social competence. *Early Education and Development, 20*(2), 346–372. https://doi.org/10.1080/10409280802581284

Davis, A. N., Carlo, G., Maiya, S. (2021). Towards a multisystem, strength-based model of social inequities in US Latino youth. *Human Development, 65*(4), 204-216. https://doi.org/10.1159/000517920

Davis, A. N., Carlo, G., Schwartz, S. J., Unger, J. B., Zamboanga, B. L., Lorenzo-Blanco, E. I., Cano, M. Á., Baezconde-Garbanati, L., Oshri, A., Streit, C., Martinez, M. M., Piña-Watson, B., Lizzi, K., & Soto, D. (2016). The longitudinal associations between discrimination, depressive symptoms, and prosocial behaviors in US Latino/a recent immigrant adolescents. *Journal of Youth and Adolescence, 45*(3), 457–470. https://doi.org/10.1007/s10964-015-0394-x

Delia, J., & Krasny, M. E. (2018). Cultivating positive youth development, critical consciousness, and authentic care in urban environmental education. *Frontiers in Psychology, 8*, 2340. http://dx.doi.org/10.3389/fpsyg.2017.02340

Denham, S. A., Blair, K. A., DeMulder, E., Levitas, J., Sawyer, K., Auerbach-Major, S., & Queenan, P. (2003). Preschool emotional competence: Pathway to social competence. *Child Development, 74*(1), 238-256. https://doi.org/10.1111/1467-8624.00533

Diamond, A. (2013). Executive functions. *Annual Review of Psychology*, 64135-64168. https://doi.org/10.1146/annurev-psych-113011-143750

Diamond, A., & Taylor, C. (1996). Development of an aspect of executive control: Development of the abilities to remember what I said and to "Do as I say, not as I do." *Developmental Psychobiology, 29*(4), 315-334. https://doi.org/10.1002/(SICI)1098-2302(199605)29:4<315::AID-DEV2>3.0.CO;2-T

Diemer, M. A. (2012). Fostering marginalized youths' political participation: Longitudinal roles of parental political socialization and youth sociopolitical development. *American Journal of Community Psychology, 50*(1–2), 246–256. https://doi.org/10.1007/s10464-012-9495-9

Diemer, M. A., & Blustein, D. L. (2006). Critical consciousness and career development among urban youth. *Journal of Vocational Behavior, 68*(2), 220–232. https://doi.org/10.1016/j.jvb.2005.07.001

Diemer, M. A., & Hsieh, C. (2008). Sociopolitical development and vocational expectations among lower socioeconomic status adolescents of color. *The Career Development Quarterly, 56*(3), 257–267. https://doi.org/10.1002/j.2161-0045.2008.tb00040.x

Diemer, M. A., & Li, C. (2011). Critical consciousness development and political participation among marginalized youth. *Child Development, 82*(6), 1815–1833. https://doi.org/10.1111/j.1467-8624.2011.01650.x

Diemer, M. A., Pinedo, A., Bañales, J., Mathews, C. J., Frisby, M. B., Harris, E. M., & McAlister, S. (2021). Recentering action in critical consciousness. *Child Development Perspectives, 15*(1), 12–17. https://doi.org/10.1111/cdep.12393

Diemer, M. A., & Rapa, L. J. (2016). Unraveling the complexity of critical consciousness, political efficacy, and political action among marginalized adolescents. *Child Development, 87*(1), 221–238. https://doi.org/10.1111/cdev.12446

Diemer, M. A., Rapa, L. J., Park, C. J., & Perry, J. C. (2017). Development and validation of the Critical Consciousness Scale. *Youth & Society, 49*(4), 461–483. https://doi.org/10.1177/0044118X14538289

Diemer, M. A., Rapa, L. J., Voight, A. M., & McWhirter, E. H. (2016). Critical consciousness: A developmental approach to addressing marginalization and oppression. *Child Development Perspectives, 10*(4), 216–221. https://doi.org/10.1111/cdep.12193

Dotterer, A. M., McHale, S. M., & Crouter, A. C. (2009). Sociocultural factors and school engagement among African American youth: The roles of racial discrimination, racial socialization, and ethnic identity. *Applied Developmental Science, 13*(2), 61–73. https://doi.org/10.1080/10888690902801442

Downer, J., Sabol, T. J., & Hamre, B. (2010). Teacher-child interactions in the classroom: Toward a theory of within- and cross-domain links to children's developmental outcomes. *Early Education and Development, 21*(5), 699–723. https://doi.org/10.1080/10409289.2010.497453

Duncan, G. J. (2003). Modeling the Impacts of Child Care Quality on Children's Preschool Cognitive Development. *Child Development, 74*(5), 1454–1475. https://doi.org/10.1111/1467-8624.00617

Duncan, G. J., Magnuson, K., & Votruba-Drzal, E. (2014). Boosting family income to promote child development. *The Future of Children, 24*(1), 99–120. https://doi.org/10.1353/foc.2014.0008

Dunham, Y., Baron, A. S., & Banaji, M. R. (2008). The development of implicit intergroup cognition. *Trends in Cognitive Sciences, 12*(7), 248-253. https://doi.org/10.1016/j.tics.2008.04.006

Eisenberg, N., Cameron, E., Tryon, K., & Dodez, R. (1981). Socialization of prosocial behavior in the preschool classroom. *Developmental Psychology, 17*(6), 773–782. https://doi.org/10.1037/0012-1649.17.6.773

Eisenberg, N., & Fabes, R. A. (1998). Prosocial development. In: W. Damon, N. Eisenberg (Eds.), *The handbook of child psychology* (pp. 701-778). New York, NY: Wiley.

Eisenberg, N., Fabes, R. A., & Spinrad, T. L. (2006). Prosocial development. In W. Damon, N. Eisenberg (Eds.), *The handbook of child psychology* (pp. 646-718). New York, NY: Wiley.

Eisenberg, N., Guthrie, I. K., Murphy, B. C., Shepard, S. A., Cumberland, A., & Carlo, G. (1999). Consistency and development of prosocial dispositions: A longitudinal study. *Child Development, 70*(6), 1360–1372. https://doi.org/10.1111/1467-8624.00100

Eisenberg, N., Hofer, C., Sulik, M. J., & Liew, J. (2013). The development of prosocial moral reasoning and a prosocial orientation in young adulthood: Concurrent and longitudinal correlates. *Developmental Psychology, 50*(1), 58–70. https://doi.org/10.1037/a0032990

Eisenberg, N., Liew, J., & Pidada, S. U. (2004). The longitudinal relations of regulation and emotionality to quality of Indonesian children's socioemotional functioning. *Developmental Psychology, 40*, 790-804. https://doi.org/10/1037/0012-1649.40.5.790

Erikson, E. H. (1965). *The challenge of youth.* New York, NY: Doubleday Books. Erikson, E. H. (1968). *Youth, identity, and crisis.* New York, NY: W. W. Norton. Fabes, R. A., Eisenberg, N., Jones, S., Smith, M., Guthrie, I., Poulin, R., Shepard, S., &

Friedman, J. (1999). Regulation, emotionality, and preschoolers' socially competent peer interactions. *Child Development, 70*(2), 432–442. https://doi.org/10.1111/1467-8624.00031

Fay, S. T., Hawes, D. J., & Meredith, P. (2014). Parenting influences on executive function in early childhood: A review. *Child Development Perspectives, 8*(4), 258-264. https://doi.org/10.1111/cdep.12095

Fegley, C. S., Angelique, H., & Cunningham, K. (2006). Fostering critical consciousness in young people: Encouraging the "doves" to find their voices. *Journal of Applied Sociology/Sociological Practice, 23, 8*, 7–27. http://dx.doi.org/10.1177/19367244062300102

Fernández, J. S., & Watts, R. J. (2023). Sociopolitical Development as Emotional Work: How Young Organizers Engage Emotions to Support Community Organizing for Transformative Racial Justice. *Journal of Adolescent Research*, *38*(4), 697–725. https://doi.org/10.1177/07435584221091497

Flanagan, C. A. (2004). Volunteerism, leadership, political socialization, and civic engagement. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology., 2nd ed.* (pp. 721–745). John Wiley & Sons Inc.

Freire, P. (1970). Pedagogy of the oppressed. New York, NY: Continuum. (M.B. Ramos, Trans.).

Friedman, S. L., Scholnick, E. K., Bender, R. H., Vandergrift, N., Spieker, S., Hirsh Pasek, K., Keating, D. P., & Park, Y. (2014). Planning in middle childhood: Early predictors and later outcomes. *Child Development*, *85*(4), 1446–1460. https://doi.org/10.1111/cdev.12221

Fuhs, M. W., Farran, D. C., & Nesbitt, K. T. (2013). Preschool classroom processes as predictors of children's cognitive self-regulation skills development. *School Psychology Quarterly, 28*(4), 347-359. https://doi.org/10.1037/spq0000031

Galindo, C., & Fuller, B. (2010). The social competence of Latino kindergartners and growth in mathematical understanding. *Developmental Psychology*, *46*(3), 579–592. https://doi.org/10.1037/a0017821

García Coll, C., & Ferrer, K. (2021). Zigler's conceptualization of diversity: Implications for the early childhood development workforce. *Development and Psychopathology, 33*(2), 483-492. doi:10.1017/S0954579420001960

García Coll, C., Lamberty, G., Jenkins, R., McAdoo, H. P., Crnic, K., Wasik, B. H., & García, H. V. (1996). An integrative model for the study of developmental competencies in minority children. In M. E. Hertzig & E. A. Farber (Eds.), *Annual progress in child psychiatry and child development: 1997*. (pp. 437–463). Philadelphia, PA: Brunner/Mazel.

Gathercole S. E., Pickering S. J., Knight C., Stegmann Z. (2004). Working memory skills and educational attainment: Evidence from national curriculum assessments at 7 and 14 years of age. *Applied Cognitive Psychology, 18*(1), 1-16. https://doi.org/10.1002/acp.934

Gerard, A. B. (1994). *Parent-Child Relationship Inventory (PCRI) manual.* Western Psychological Services.

Gioia, G. A., Isquith, P. K., Guy, S. C., & Kenworthy, L. (2000). *Behavior Rating Inventory of Executive Function: BRIEF*. Odessa, FL: Psychological Assessment Resources.

Godfrey, E. B., & Burson, E. (2018). Interrogating the intersections: How intersectional perspectives can inform developmental scholarship on critical consciousness. In C. E. Santos & R. B. Toomey (Eds.), Envisioning the Integration of an Intersectional Lens in Developmental Science. *New Directions for Child and Adolescent Development, 161*, 17–38. https://doi.org/10.1002/cad.20246

Godfrey, E. B., & Wolf, S. (2016). Developing critical consciousness or justifying the system? A qualitative analysis of attributions for poverty and wealth among low-income racial/ethnic minority and immigrant women. *Cultural Diversity & Ethnic Minority Psychology, 22*(1), 93–103. https:// doi.org/10.1037/cdp0000048

Gresham, F. M., & Elliot, S. N. (1990). *Social Skills Rating System manual.* American Guidance Service.

Grolnick, W. S., Caruso, A. J., & Levitt, M. R. (2019). Parenting and children's self-regulation. In M. H. Bornstein (Ed.), *Handbook of parenting: Vol. 5. The practice of parenting* (3rd ed., pp. 44–65). Routledge. https://doi.org/10.4324/9780429401695-2

Gülseven, Z., Liu, Y., Ma, T. L., Yu, M. V. B., Simpkins, S. D., Vandell, D. L., & Zarrett, N. (2021). The development of cooperation and self-control in middle childhood: Associations with earlier maternal and paternal parenting. *Developmental Psychology, 57*(3), 397-409. https://doi.org/10.1037/dev0001151

Gresham, F. M., Elliott, S. N., Vance, M. J., & Cook, C. R. (2011). Comparability of the Social Skills Rating System to the Social Skills Improvement System: Content and psychometric comparisons across elementary and secondary age levels. *School Psychology Quarterly, 26*(1), 27-44. https://doi.org/10.1037/a0022662

Hackman, D. A., Gallop, R., Evans, G. W., & Farah, M. J. (2015). Socioeconomic status and executive function: Developmental trajectories and mediation. *Developmental Science, 18*(5), 686–702. https://doi.org/10.1111/desc.12246

Hamre, B., Hatfield, B., Pianta, R., & Jamil, F. (2014). Evidence for general and domain-specific elements of teacher–child interactions: Associations with preschool children's development. *Child Development, 85*(3), 1257–1274. https://doi.org/10.1111/cdev.12184

Hamre, B., & Pianta, R. (2001). Early teacher-child relationships and the trajectory of children's school outcomes through eighth grade. *Child Development, 72*(2), 625-638. https://doi.org/10.1111/1467-8624.00301

Hay, D. F., & Cook, K. V. (2007). The transformation of prosocial behavior from infancy to childhood. In C. A. Brownell & C. B. Kopp (Eds.), *Socioemotional development in the toddler years: Transitions and transformations.* (pp. 100–131). New York, NY: Guilford Press.

Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication Monographs, 76*(4), 408-420. https://doi.org/10.1080/03637750903310360

Head Start Act of 2007, Pub. L. 110-134, 121 Stat. 1363, codified as amended at 42 U.S.C. 9840. https://eclkc.ohs.acf.hhs.gov/sites/default/files/pdf/hs-act-pl-110-134.pdf

Heberle, A. E., Rapa, L. J., & Farago, F. (2020). Critical consciousness in children and adolescents: A systematic review, critical assessment, and recommendations for future research. *Psychological Bulletin, 146*, 525–551. https://doi.org/10.1037/bul0000230

Heckman, J. J., Moon, S. H., Pinto, R., Savelyev, P. A., & Yavitz, A. (2010). The rate of return to the HighScope Perry Preschool Program. *Journal of Public Economics, 94*, 114-128. https://doi.org/10.1016/j.jpubeco.2009.11.001

Hill, C. J., Gormley, W. T., & Adelstein, S. (2015). Do the short-term effects of a high-quality preschool program persist? *Early Childhood Research Quarterly, 32*, 60-79. https://doi.org/10.1016/j.ecresq.2014.12.005

Hoffman, M. L. (2008). Empathy and prosocial behavior. In M. Lewis, J. M. Haviland-Jones, & L. F. Barrett (Eds.), *Handbook of emotions., 3rd ed.* (pp. 440–455). New York, NY: The Guilford Press.

Holbein, J. B. (2017). Childhood skill development and adult political participation. *American Political Science Review, 111*(3), 572-583. https://doi.org/10.1017/S0003055417000119

Holbein, J. B., Bradshaw, C. P., Munis, B. K., Rabinowitz, J., & Ialongo, N. S. (2022). Promoting voter turnout: An unanticipated impact of early-childhood preventative interventions. *Prevention Science, 23*, 192-203. https://doi.org/10.1007/s11121-021-01275-y

Huang, F. L. (2018). Multilevel modeling myths. *School Psychology Quarterly, 33*(3), 492–499. https://doi.org/10.1037/spq0000272.supp (Supplemental)

Huizinga, M., Dolan, C. V., & van der Molen, M. W. (2006). Age-related change in executive function: Developmental trends and a latent variable analysis. *Neuropsychologia, 44*(11), 2017–2036. https://doi.org/10.1016/j.neuropsychologia.2006.01.010

Hughes, D., Rodriguez, J., Smith, E. P., Johnson, D. J., Stevenson, H. C., & Spicer, P. (2006). Parents' ethnic-racial socialization practices: A review of research and directions for future study. *Developmental Psychology*, *42*(5), 747–770. https://doi.org/10.1037/0012-1649.42.5.747

Jagers, R. J., Rivas-Drake, D., & Borowski, T. (2018). *Equity and social-emotional learning: A cultural analysis*. CASEL Assessment Work Group Brief series. https://measuringsel.casel. org/wp-content/uploads/2018/11/Frameworks-Equity.pdf

Jagers, R. J., Rivas-Drake, D., & Williams, B. (2019). Transformative social and emotional learning (SEL): Toward SEL in service of educational equity and excellence. *Educational Psychologist, 54*(3), 162–184. https://doi.org/10.1080/00461520.2019.1623032

Jambon, M., Madigan, S., Plamondon, A., & Jenkins, J. (2019). Developmental trajectories of physical aggression and prosocial behavior in early childhood: Family antecedents and psychological correlates. *Developmental Psychology*, *55*(6), 1211–1225. https://doi.org/10.1037/dev0000714.supp

Jeličic, H., Phelps, E., & Lerner, R. M. (2009). Use of missing data methods in longitudinal studies: The persistence of bad practices in developmental psychology. *Developmental Psychology, 45*(4), 1195-1199. https://doi.org/10.1037/a0015665

Jensen, L. A. (2020). The Development of Moral Reasoning. In L.A. Jensen (Ed.), The Oxford Handbook of Moral Development: An Interdisciplinary Perspective (pp. 222-243). Oxford University Press.

Johnson, S. R., Seidenfeld, A. M., Izard, C. E., & Kobak, R. (2013). Can classroom emotional support enhance prosocial development among children with depressed caregivers? *Early Childhood Research Quarterly*, *28*(2), 282–290. https://doi.org/10.1016/j.ecresq.2012.07.003

Jones, K., & Day, J. D. (1997). Discrimination of two aspects of cognitive-social intelligence from academic intelligence. *Journal of Educational Psychology, 89*(3), 486-497. https://doi.org/10.1037/0022-0663.89.3.486

Joreskog, K. G., & Sorbom, D. (1981). *LISREL V: Analysis of linear structural relationships by the method of maximum likelihood*. Chicago: National Educational Resources.

Jost, J. T., Federico, C. M., & Napier, J. L. (2009). Political ideology: Its structure, functions, and elective affinities. *Annual Review of Psychology, 60*, 307-337. https://doi.org/10.1146/annurev.psych.60.110707.163600

Kanacri, B. P. L., Pastorelli, C., Zuffianò, A., Eisenberg, N., Ceravolo, R., & Caprara, G. V. (2014). Trajectories of prosocial behaviors conducive to civic outcomes during the transition to adulthood: The predictive role of family dynamics. *Journal of Adolescence*, *37*(8), 1529–1539. https://doi.org/10.1016/j.adolescence.2014.07.002

Karras-Jean Gilles, J., Astuto, J., Niwa, E., & Ruck, M. D. (2020). Trajectories of civic socialization in context: Examining variation among children in African American and Black immigrant families. *Developmental Psychology, 56*(12), 2293-2308. https://doi.org/10.1037/dev0001116.supp

Kelloway, E. K. (2014). *Using Mplus for Structural Equation Modeling: A Researcher's Guide* (2nd edition). SAGE Publications, Inc.

Kiang, L., Christophe, N. K., & Stein, G. L. (2021). Differentiating pathways between ethnic-racial identity and critical consciousness. *Journal of Youth Adolescence, 50*, 1369-1383. https://doi.org/10.1007/s10964-021-01453-9

Kitchens, K. E. & Gormley, W. (2023). From preschool to politics: Early socialization in Tulsa. *Early Childhood Research Quarterly, 62*(1), 259-274. https://doi.org/10.1016/j.ecresq.2022.09.004

Kline, R. B. (2016). *Principles and Practice of Structural Equation Modeling* (4th edition). The Guilford Press.

Knight, G. P. & Carlo, G. (2012). Prosocial development among Mexican American youth. *Child Development Perspectives, 6*(3), 258-263. https://doi.org/10.1111/j.1750-8606.2012.00233.x

Kochanska, G., Murray, K. T., & Halan, E. T. (2000). Effortful control in early childhood: Continuity and change, antecedents, and implications for social development. *Developmental Psychology, 36*(2), 220-232. https://doi.org/10.1037/0012-1649.36.2.220

La Paro, K. M., Pianta, R. C., & Stuhlman, M. (2004). The Classroom Assessment Scoring System: Findings from the prekindergarten year. *The Elementary School Journal, 104*(5), 409–426. https://doi.org/10.1086/499760

LaFreniere, P. J., & Dumas, J. E. (1996). Social competence and behavior evaluation in children ages 3 to 6 years: The short form (SCBE-30). *Psychological Assessment, 8*(4), 369-377. https://doi.org/10.1037/1040-3590.8.4.369

Laible, D. J., Kumru, A., Carlo, G., Streit, C., Selcuk, B., & Savil, M. (2017). The longitudinal associations among temperament, parenting, and Turkish children's prosocial behaviors. *Child Development, 88*(4), 1057-1062. https://doi.org/10.1111/cdev.12877

Laible, D., Carlo, G., Murphy, T., Augustine, M., & Roesch, S. (2014). Predicting children's prosocial and co-operative behavior from their temperamental profiles: A person-centered approach. *Social Development, 23*(4), 734–752.

Lerner, R. M., & Lerner, J. V. (2013). *The positive development of youth: Comprehensive findings from the 4-H study of positive youth development*. Washington, DC: National 4-H Council. https://dunn.extension.wisc.edu/files/2018/04/4-H-Study-of-Positive-Youth-Development-Full-Report.pdf

Li-Grining, C. P., McKinnon, R. D., & Raver, C. C. (2019). Self-regulation in early and middle childhood as a precursor to social adjustment among low-income, ethnic minority children. *Merrill-Palmer Quarterly, 65*(3), 31. https://doi.org/10.13110/merrpalmquar1982.65.3.0265

Liew, J., Carlo, G., Streit, C., & Ispa, J. M. (2018). Parenting beliefs and practices in toddlerhood as precursors to self-regulatory, psychosocial, and academic outcomes in early and middle childhood in ethnically diverse low-income families. *Social Development, 27*, 891-909. https://doi.org/10.1111/sode.12306

Lorenzo-Blanco, E. I., Meca, A., Unger, J. B., Romero, A., Gonzalez-Backen, M., Piña-Watson, B., Cano, M. Á., Zamboanga, B. L., Des Rosiers, S. E., Soto, D. W., Villamar, J. A., Lizzi, K. M., Pattarroyo, M., & Schwartz, S. J. (2016). Latino parent acculturation stress: Longitudinal effects on family functioning and youth emotional and behavioral health. *Journal of Family Psychology, 30*(8), 966-976. https://doi.org/10.1037/fam0000223

Luginbuhl, P. J., McWhirter, E. H., & McWhirter, B. T. (2016). Sociopo- litical development, autonomous motivation, and education outcomes: Implications for low-income Latina/o adolescents. *Journal of Latina/o Psychology, 4*, 43–59. http://dx.doi.org/10.1037/lat0000041

MacKinnon, D. P., Fairchild, A. J., & Fritz, M. S. (2007). Mediation analysis. Annual Review of Psychology, 58, 593–614. https://doi.org/10.1146/annurev.psych.58.110405.085542

Marcelo, A. K., & Yates, T. M. (2019). Young children's ethnic–racial identity moderates the impact of early discrimination experiences on child behavior problems. *Cultural Diversity and Ethnic Minority Psychology, 25*(2), 253–265. https://doi.org/10.1037/cdp0000220

Marchand, A. D., Frisby, M., Kraemer, M. R., Mathews, C. J., Diemer, M. A., & Voight, A. M. (2021). Sociopolitical participation among marginalized youth: Do political identification and ideology matter? *Journal of Youth Development, 16*(5), 41-63. https://doi.org/10.5195/jyd.2021.1089

Mashburn, A. J., Pianta, R. C., Hamre, B. K., Downer, J. T., Barbarin, O. A., Bryant, D., Burchinal, M., Early, D. M., & Howes, C. (2008). Measures of classroom quality in prekindergarten and children's development of academic, language, and social skills. *Child Development, 79*(3), 732–749. https://doi.org/10.1111/j.1467-8624.2008.01154.x

Mayseless, O. (2020). The Development of Care. In L.A. Jensen (Ed.), The Oxford Handbook of Moral Development: An Interdisciplinary Perspective (pp. 9-26). Oxford University Press.

McCoy, D. C., Gonzalez, K., & Jones, S. (2019). Preschool Self-Regulation and Preacademic Skills as Mediators of the Long-Term Impacts of an Early Intervention. *Child Development, 90*(5), 1544–1558. https://doi.org/10.1111/cdev.13289

McCoy, D. C., Jones, S., Roy, A., & Raver, C. C. (2018). Classifying trajectories of social-emotional difficulties through elementary school: Impacts of the Chicago School Readiness Project. *Developmental Psychology, 54*(4), 772-787. https://doi.org/10.1037/dev0000457

McCoy, D. L. C., Raver, C. C., Lowenstein, A. E., & Tirado-Strayer, N. (2011). Assessing self-regulation in the classroom: Validation of the BIS-11 and the BRIEF in low-income, ethnic minority school-age children. *Early Education and Development*, *22*(6), 883–906. https://doi.org/10.1080/10409289.2010.508371

McMahon, S. D., Todd, N. R., Martinez, A., Coker, C., Sheu, C.-F., Washburn, J., & Shah, S. (2013). Aggressive and prosocial behavior: Community violence, cognitive, and behavioral predictors among urban African American youth. *American Journal of Community Psychology*, *51*(3–4), 407–421. https://doi.org/10.1007/s10464-012-9560-4

McWhirter, E. H., & McWhirter, B. T. (2016). Critical consciousness and vocational development among Latina/o high school youth: Initial development and testing of a measure. *Journal of Career Assessment, 24*, 543–558. http://dx.doi.org/10.1177/1069072715599535

Metzger, A., Alvis, L. M., Oosterhoff, B., Babskie, E., Syvertsen, A., & Wray-Lake, L. (2018). The intersection of emotional and sociocognitive competencies with civic engagement in middle childhood and adolescence. *Journal of Youth and Adolescence, 47*(8), 1663–1683. https://doi.org/10.1007/s10964-018-0842-5

Miyake, A., Friedman, N. P., Emerson, M. J., Witzki, A. H., & Howerter, A. (2000). The unity and diversity of executive functions and their contributions to complex "frontal lobe" tasks: A latent variable analysis. *Cognitive Psychology*, *41*(1), 49–100. https://doi.org/10.1006/cogp.1999.0734

Moore, S., Daniel, M., Gauvin, L., & Dubé, L. (2009). Not all social capital is good capital. *Health & Place*, *15*(4), 1071-1077. https://doi.org/10.1016/j.healthplace.2009.05.005

Mosley, D. V., Hargons, C. N., Meiller, C., Angyal, B., Wheeler, P., Davis, C., & Stevens-Watkins, D. (2021). Critical consciousness of anti-Black racism: A practical model to prevent and resist racial trauma. *Journal of Counseling Psychology*, *68*(1), 1–16. https://doi.org/10.1037/cou0000430

Murray, K. T., & Kochanska, G. (2002). Effortful control: Factor structure and relation to externalizing and internalizing behaviors. *Journal of Abnormal Child Psychology, 30*(5), 503-504. https://doi.org/10.1023/A:1019821031523

Muthén, L. K., & Muthén, B. O. (2017). *Mplus user's guide.* Los Angeles, CA: Muthén & Muthén.

National Association for the Education of Young Children (NAEYC) (2022). *Head Start.* https://www.naeyc.org/our-work/public-policy-advocacy/head-start

National Center for Education Statistics (2019). *Dropout Rates*. https://nces.ed.gov/fastfacts/display.asp?id=16

Naqi, Z. F. (2020). *Latino Parents' Acculturative Stress and Their Preschoolers' Prosocial Development: Testing the Mediating Role of Parenting Style* [Master's thesis, Loyola University Chicago]. ProQuest Dissertations Publishing.

Newton, E. K., Laible, D., Carlo, G., Steele, J. S., & McGinley, M. (2014). Do sensitive parents foster kind children, or vice versa? Bidirectional influences between children's prosocial behavior and parental sensitivity. *Developmental Psychology, 50*(6), 1808–1816. https://doi.org/10.1037/a0036495

Nicholas, C., Eastman, M. H., & Barbich, N. (2019). Empowering change agents: Youth organizing groups as sites for sociopolitical development. *American Journal of Community Psychology, 63*(1–2), 46–60. https://doi.org/10.1002/ajcp.12315

Nigg, J. T. (2017). On the relations among self-regulation, self-control, executive functioning, effortful control, cognitive control, impulsivity, risk-taking, and inhibition for developmental psychopathology. *Journal of Child Psychology and Psychiatry, 58*(4), 361-383. https://doi.org/10.1111/jcpp.12675

Nguyen, T., Ansari, A., Pianta, R. C., Whittaker, J. V., Vitiello, V. E., & Ruzek, E. (2020). The classroom relational environment and children's early development in preschool. *Social Development*. https://doi.org/10.1111/sode.12447

Olle, C. D., & Fouad, N. A. (2015). Parental support, critical consciousness, and agency in career decision making for urban students. *Journal of Career Assessment, 23*(4), 533–544. https://doi.org/10.1177/1069072714553074

Park, K., Burbank, M. D., Goldsmith, M. M., & Spikner, J. (2022). "It will be hard, but it will be worth the fight": Narratives of preschool teachers on teaching for social justice. *Early Childhood Education Journal.* https://doi.org/10.1007/s10643-022-01402-6

Patton, J. H., Stanford, M. S., & Barratt, E. S. (1995). Factor structure of the Barratt Impulsiveness Scale. *Journal of Clinical Psychology, 51*(6), 768-774. https://doi.org/10.1002/1097-4679(199511)51:6<768::AID-JCLP227051607>3.0.CO;2-1

Peisner-Feinberg, E. S., Burchinal, M. R., Clifford, R. M., Culkin, M. L., Howes, C., Kagan, S. L., & Yazejian, N. (2001). The relation of preschool child-care quality to children's cognitive and social developmental trajectories through second grade. *Child Development, 72*(5), 1534-1553. https://doi.org/10.1111/1467-8624.00364

Pérez-Gualdrón, L., & Helms, J. E. (2017). A longitudinal model of school climate, social justice orientation, and academic outcomes among Latina/o students. *Teachers College Record, 119*(10), 1–37.

Pew Research Center (2021). *How America Changed During Donald Trump's Presidency.* https://www.pewresearch.org/2021/01/29/how-america-changed-during-donald-trumps-presidency/

Pianta, R. C., La Paro, K. M., Payne, C., Cox, M. J., & Bradley, R. (2002). The relation of kindergarten classroom environment to teacher, family, and school characteristics and child outcomes. *The Elementary School Journal, 102*(3), 225–238. https://doi.org/10.1086/499701

Pianta, R. C., Lipscomb, D., & Ruzek, E. (2021). Coaching teachers to improve students' school readiness skills: Indirect effects of teacher-student interaction. *Child Development, 92*(6), 2509-2528. https://doi.org/10.1111/cdev.13600

Plummer, J. A., Wray-Lake, L., Alvis, L., Metzger, A., & Syvertsen, A. K. (2022). Assessing the link between adolescents' awareness of inequality and civic engagement across time and racial/ethnic groups. *Journal of Youth and Adolescence.* https://doi.org/10.1007/s10964-021-01545-6

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods, 4*(3), 879-891. https://doi.org/10.3758/BRM.40.3.879

Preacher, K. J., Zyphur, M. J., & Zhang, Z. (2010). A general multilevel SEM framework for assessing multilevel mediation. *Psychological Methods, 15*(3), 209-233. https://doi.org/10.1037/a0020141

Rapa, L. J., Diemer, M. A., & Bañales, J. (2018). Critical action as a pathway to social mobility among marginalized youth. *Developmental Psychology, 54*(1), 127–137. https://doi.org/10.1037/dev0000414

Rapa, L. J., & Geldhof, G. J. (2020). Critical consciousness: New directions for understanding its development during adolescence. *Journal of Applied Developmental Psychology, 70.* https://doi.org/10.1016/j.appdev.2020.101187

Raver, C. C., Jones, S. M., Li-Grining, C. P., Metzger, M., Champion, K. M., & Sardin, L. (2008). Improving preschool classroom processes: Preliminary findings from a randomized trial implemented in Head Start settings. *Early Childhood Research Quarterly, 23*(1), 10-26. https://doi.org/10.1016/j.ecresq.2007.09.001

Raver, C. C., Jones, S. M., Li-Grining, C., Zhai, F., Bub, K., & Pressler, E. (2011). CRSP's impact on low-income preschoolers' preacademic skills: Self-regulation as a mediating mechanism. *Child Development*, *82*(1), 362–378. https://doi.org/10.1111/j.1467-8624.2010.01561.x

Reifen-Tagar, M., & Cimpian, A. (2022). Political ideology in early childhood: Making the case for studying young children in political psychology. *Political Psychology.* https://doi.org/10.1111/pops.12853

Reynolds, A. J., Temple, J. A., Ou, S., R., Arteaga, I., A., & White, B. A. B. (2011). School-based early childhood education and age-28 well-being: Effects by timing, dosage, and subgroups. *Science, 333*(6040), 360-364. https://doi.org/10.1126/science.1203618

Rimm-Kaufman, S. E., Curby, T. W., Grimm, K. J., Nathanson, L., & Brock, L. L. (2009). The contribution of children's self-regulation and classroom quality to children's adaptive behaviors in the kindergarten classroom. *Developmental Psychology, 45*(4), 958–972. https://doi.org/10.1037/a0015861

Rimm-Kaufman, S. E., & Pianta, R. C. (2000). An ecological perspective on the transition to kindergarten: A theoretical framework to guide empirical research. *Journal of Applied Developmental Psychology, 21*(5), 491–511. https://doi.org/10.1016/S0193-3973(00)00051-4

Romanow, L. (2020). Grassroots Organizing and Preparing for the Unprecedented. *Stanford Social Innovation Review.* https://doi.org/10.48558/846N-XV48

Roy, A. L., Raver, C. C., Masucci, M. D., & DeJoseph, M. (2019). "If they focus on giving us a chance in life we can actually do something in this world": Poverty, inequality, and youths' critical consciousness. *Developmental Psychology, 55,* 550 –561. https://dx.doi.org/10.1037/ dev0000586

Sabol, T. J., Bohlmann, N. L., & Downer, J. T. (2018). Low-income ethnically diverse children's engagement as a predictor of school readiness above preschool classroom quality. *Child Development, 89*(2), 556-576. https://doi.org/10.1111/cdev.12832

Sabol, T. J., Ross, E. C., & Frost, A. (2020). Are all Head Start classrooms created equal? Variation in classroom quality within Head Start centers and implications for accountability systems. *American Educational Research Journal*, *57*(2), 504–534. https://doi.org/10.3102/0002831219858920

Sánchez Carmen, S. A., Domínguez, M., Greene, A. C., Mendoza, E., Fine, M., Neville, H. A., & Gutiérrez, K. D. (2015). Revisiting the collective in critical consciousness: Diverse sociopolitical wisdoms and ontological healing in sociopolitical development. *The Urban Review, 47,* 824-846. https://dx.doi.org/10.1007/s11256-015-0338-5

Schmerse, D. (2020). Preschool quality effects of learning behavior and later achievement in Germany: Moderation by socioeconomic status. *Child Development, 91*(6), 2237-2254. https://doi.org/10.1111/cdev.13357

Schoemann, A. M., Boulton, A. J., & Short, S. D. (2017). Determining power and sample size for simple and complex mediation models. *Social Psychological and Personality Science, 8*(4), 379-386. https://doi.org/10.1177/1948550617715068

Seider, S., El-Amin, A., Leigh Kelly, L. (2020). The Development of Critical Consciousness. In L.A. Jensen (Ed.), The Oxford Handbook of Moral Development: An Interdisciplinary Perspective (pp. 203-221). Oxford University Press.

Seider, S., Graves, D., El-Amin, A., Kelly, L., Soutter, M., Clark, S., Jennett, P., & Tamerat, J. (2023). The development of critical consciousness in adolescents of color attending "opposing" school models. *Journal of Adolescent Research, 38*(1), 3-47. https://doi.org/10.1177/07435584211006466

Seider, S., Graves, D., El-Amin, A., Soutter, M., Tamerat, J., Jennett, P., Clark, S., Malhotra, S., & Johannsen, J. (2018). Developing sociopolitical consciousness of race and social class inequality in adolescents attending progressive and no excuses urban secondary schools. *Applied Developmental Science, 22*(3), 169-187. https://doi.org/10.1080/10888691.2016.1254557

Seider, S., Tamerat, J., Clark, S., & Soutter, M. (2017). Investigating adolescents' critical consciousness development through a character framework. *Journal of Youth and Adolescence, 46*(6), 1162-1178. https://doi.org/10.1007/s10964-017-0641-4

Sirin, S. R. (2005). Socioeconomic Status and Academic Achievement: A Meta-Analytic Review of Research. *Review of Educational Research, 75*(3), 417-453. https://doi.org/10.3102/00346543075003417

Smith-Donald, R., Raver, C. C., Hayes, T., & Richardson, B. (2007). Preliminary construct and concurrent validity of the preschool self-regulation assessment (PSRA) for field-based research. *Early Childhood Research Quarterly, 22*(2), 173-187. https://doi.org//10.1016/jecresq.2007.01.002

Son, S. C., & Chang, Y. E., (2018). Childcare experiences and early school outcomes: The mediating role of executive functions and emotionality. *Infant and Child Development, 27*(4), 1-10. https://doi.org/10.1002/icd.2087

Spinrad, T. L., Eisenberg, N., Xiao, S. X., Xu, J., Berger, R. H., Pierotti, S. L., Laible, D. J., Carlo, G., Gal, S. D. E., Janssen, J., Fraser, A., Xu, X., Wang, W., & Lopez, J. (2023). White children's empathy-related responding and prosocial behavior toward White and Black children. *Child Development, 94*(1), 93-109. https://doi.org/10.1111/cdev.13841

Steiger, J. H. (1989). *EzPATH: A supplementary module for SYSTAT and SYGRAPH.* Evanston, IL: SYSTAT.

Stein, G. L., Cupito, A. M., Mendez, J. L., Prandoni, J., Huq, N., & Westerberg, D. (2014). Familism through a developmental lens. *Journal of Latina/o Psychology*, *2*(4), 224–250. https://doi.org/10.1037/lat0000025

Suárez-Orozco, C., Motti-Stefanidi, F., Marks, A., & Katsiaficas, D. (2018). An Integrative Risk and Resilience Model for Understanding the Adaptation of Immigrant-Origin Children and Youth. *American Psychologist, 73*(6), 781-796. https://doi.org/10.1037/amp0000265

Tabachnick, B. G., & Fidell, L. S. (2013). *Using Multivariate Statistics* (6th ed.). Boston: Pearson.

Taylor, L. K., Merrilees, C. E., Baird, R., Goeke-Morey, M. C., Shirlow, P., & Cummings, E. M. (2018). Impact of political conflict on trajectories of adolescent prosocial behavior: Implications for civic engagement. *Developmental Psychology*, *54*(9), 1785–1794. https://doi.org/10.1037/dev0000552.supp

Tran, A. G. T. T. (2014). Family contexts: Parental experiences of discrimination and child mental health. *American Journal of Community Psychology, 53*(1-2), 37-46. https://doi.org/10.1007/s10464-013-9607-1

Tucker, L. R., & Lewis, C. (1973). A reliability coefficient for maximum likelihood factor analysis. *Psychometrika, 38*(1), 1-10. https://doi.org/10.1007/BF02291170

Ulber, J., Hamann, K., & Tomasello, M. (2016). Extrinsic rewards diminish costly sharing in 3-year-olds. *Child Development, 87*(4), 1192–1203. https://doi.org/10.1111/cdev.12534

Umaña-Taylor, A. J., Vargas-Chanes, D., Garcia, C. D., & Gonzales-Backen, M. (2008). A longitudinal examination of Latino adolescents' ethnic identity, coping with discrimination, and self-esteem. *The Journal of Early Adolescence, 28*(1), 16–50. https://doi.org/10.1177/0272431607308666

Uriostegui, M., Roy, A. L., & Li-Grining, C. P. (2021). What drives you? Black and Latino youth's critical consciousness, motivations, and academic and career activities. *Journal of Youth and Adolescence, 50*(1), 58–74. https://doi.org/10.1007/s10964-020-01343-6

U.S. Census Bureau (2020). *Income and Poverty in the United States: 2020.* https://www.census.gov/content/dam/Census/library/publications/2021/demo/p60-273.pdf

U.S. Department of Health and Human Services (HHS) (2023). *Advancing Racial and Ethnic Equity in Head Start.* https://eclkc.ohs.acf.hhs.gov/culture-language/article/advancing-racial-ethnic-equity-head-start

U.S. Department of Health and Human Services (HHS) (2018). *Head Start Parent, Family, and Community Engagement Framework.* https://eclkc.ohs.acf.hhs.gov/sites/default/files/pdf/pfce-framework.pdf

U.S. Department of Health and Human Services (HHS) (2020). *Interactive Head Start Learning Outcomes Framework: Ages Birth to Five*. https://eclkc.ohs.acf.hhs.gov/interactive-head-start-early-learning-outcomes-framework- ages-birth-five.pdf

U.S. Department of Health and Human Services (HHS) (2021). *Head Start Programs.* https://eclkc.ohs.acf.hhs.gov/programs/article/head-start-programs

Vandell, D. L., Belsky, J., Burchinal, M., Steinberg, L., & Vandergrift, N. (2010). Do effects of early child care extend to age 15 years? Results from the NICHD study of early child care and youth development. *Child Development, 81*(3), 737-756. https://doi.org/10.1111/j.1467-8624.2010.01431.x

Votruba-Drzal, E. (2006). Economic disparities in middle childhood development: Does income matter? *Developmental Psychology, 42*(6), 1154-1167. https://doi.org/10.1037/0012-1649.42.6.1154

Wang, M.-T., L. Degol, J., Amemiya, J., Parr, A., & Guo, J. (2020). Classroom climate and children's academic and psychological wellbeing: A systematic review and meta-analysis. *Developmental Review, 57*. https://doi.org/10.1016/j.dr.2020.100912

Warneken, F., & Tomasello, M. (2007). Helping and cooperation at 14 months of age. *Infancy, 11*(3), 271-294. https://doi.org/10.1111/j.1532-7078.2007.tb00227.x

Watts, R. J., Diemer, M. A., & Voight, A. M. (2011). Critical consciousness: Current status and future directions. In C. A. Flanagan & B. D. Christens (Eds.), Youth civic development: Work at the cutting edge.(pp. 43–57). Jossey-Bass.

Watts, R. J., & Flanagan, C. (2007). Pushing the envelope on youth civic engagement: A developmental and liberation psychology perspective. *Journal of Community Psychology, 35*(6), 779–792. https://doi.org/10.1002/jcop.20178

Watts, R. J., Griffith, D. M., & Abdul-Adil, J. (1999). Sociopolitical development as an antidote for oppression theory and action. *American Journal of Community Psychology, 27*(2), 255–271. https://doi.org/10.1023/A:1022839818873

Watts, T. W., Jenkins, J. M., Dodge, K. A., Carr, R. C., Sauval, M., Bai, Y., Escueta, M., Duer, J., Ladd, H., Muschkin, C., Peisner-Feinberg, E., & Ananat, E. (2023). Understanding heterogeneity in the impact of public preschool programs. *Monographs of the Society for Research in Child Development*, *87*(4). https://doi.org/10.1111/mono.12463

Watts, R. J., Williams, N. C., & Jagers, R. J. (2003). Sociopolitical development. *American Journal of Community Psychology*, *31*(1–2), 185–194. https://doi.org/10.1023/A:1023091024140

Wei, W. S., McCoy, D. C., Busby, A. K., Hanno, E. C., & Sabol, T. J. (2021). Beyond neighborhood socioeconomic status: Exploring the role of neighborhood resources for preschool classroom quality and early childhood development. *American Journal of Community Psychology, 67*, 470-485. https://doi.org/10.1002/ajcp.12507

Weiland, C., & Yoshikawa, H. (2013). Impacts of a pre-kindergarten program on children's mathematics, language, literacy, executive function, and emotional skills. *Child Development*, *84*(6), 2112–2130. https://doi.org/10.1111/cdev.12099

Wiebe, S. A., Espy, K. A., & Charak, D. (2008). Using confirmatory factor analysis to understand executive control in preschool children: I Latent structure. *Developmental Psychology, 44*(2), 575–587. https://doi.org/10.1037/0012-1649.44.2.575.supp

Wiedermann, W., Reinke, W. M., & Herman, K. C. (2020). Prosocial skills causally mediate the relation between effective classroom management and academic competence: An application of direction dependence analysis. *Developmental Psychology, 56*(9), 1723-1735. https://doi.org/10.1037/dev0001087.supp

Wilf, S., Maker Castro, E., Gupta, K. G., & Wray-Lake, L. (2022). Shifting culture and minds: Immigrant-origin youth building critical consciousness on social media. *Youth & Society, 00*(0). https://doi.org/10.1177/0044118X221103890

Williams, S., Moore, K., Crossman, A. M., & Talwar, V. (2016). The role of executive functions and theory of mind in children's prosocial lie-telling. *Journal of Experimental Child Psychology*, *141*, 256–266. https://doi.org/10.1016/j.jecp.2015.08.001

Williford, A. P., Whittaker, J. E. V., Vitiello, V. E., & Downer, J. T. (2013). Children's engagement within the preschool classroom and their development of self-regulation. *Early Education and Development*, *24*(2), 162–187. https://doi.org/10.1080/10409289.2011.6282

Wray-Lake, L., & Ballard, P. J. (2023). Civic engagement across adolescence and early adulthood. In L. J. Crockett, G. Carlo, & J. E. Schulenberg (Eds.), *APA handbook of adolescent and young adult development* (pp. 573–593). American Psychological Association. https://doi.org/10.1037/0000298-035

Wray-Lake, L., & Syvertsen, A. (2011). The developmental roots of social responsibility in childhood and adolescence. In C. Flanagan & B. Christens (Eds.), Youth development: Work at the cutting edge. *New Directions for Child and Adolescent Development, 134,* 11-25. https://doi.org/10.1002/cd.308

Xu, X., Spinrad, T. L., Xiao, S. X., Xu, J., Eisenberg, N., Laible, D. J., Berger, R. H., & Carlo, G. (2023). White children's prosocial behavior toward White versus Black peers: The role of children's effortful control and parents' implicit racial attitudes. *Child Development,* 00, 1-14. https://doi.org/10.1111/cdev.13948

Yoshikawa, H., Weiland, C., Brooks-Gunn, J., Burchinal, M. R., Espinosa, L. M., Gormley, W. T., Ludwig, J., Magnuson, K. A., Phillips, D., & Zaslow, M. J. (2013). *Investing in our future: The evidence base on preschool education*. Society for Research in Child Development. https://www.srcd.org/sites/default/files/file-attachments/mb_2013_10_16_investing_in_children.pdf

VITA

Dr. Naqi-Hasnain received her PhD in Developmental Psychology at Loyola University Chicago. Her research focuses on promoting equity and positive social well-being among racially and ethnically minoritized youth in culturally responsive ways. Her research interests also include how caregivers' cultural experiences, values, and practices shape children's well-being.

She is a South Asian American and cis-gender woman who currently lives in Chicago with her spouse. Born in New York, she spent her childhood in England and Hong Kong before moving back to the U.S. She is the child of immigrants, both of whom received their graduate degrees abroad, and still to this day work tirelessly to provide a comfortable life for their family. Her cultural experiences and heritage in a multitude of contexts have led her to want to learn about the many ways in which positive well-being may be fostered from an early age among youth from minoritized communities. Still, she is aware of her privilege in having access to resources and external supports in both professional and personal aspects of her life. She also remains mindful of ways that she may benefit from the stereotypes others may have of her. As such, she strives to be cognizant of how her own experiences and biases as an outgroup member may shape her research with Black and Latino youth from under-resourced backgrounds.