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Ray, Jennifer Arianna

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Adverse Childhood Experiences in Early Childhood and Behavior Problems in Middle
Childhood and Adolescence among Poor Black Children in Single-Mother Families:
Nonresident Fathers' Involvement, Mothers' Parenting Stress, Co-parenting and
Perceptions of Neighborhood Social Cohesion

A dissertation submitted in partial satisfaction of the requirements for the degree of Doctor of
Philosophy in Social Welfare

by

Jennifer Arianna Ray

2023

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ABSTRACT OF THE DISSERTATION

Adverse Childhood Experiences in Early Childhood and Behavior Problems in Middle
Childhood and Adolescence among Poor Black Children in Single-Mother Families:
Nonresident Fathers' Involvement, Mothers' Parenting Stress, Co-parenting and
Perceptions of Neighborhood Social Cohesion

by

Jennifer Arianna Ray

Doctor of Philosophy in Social Welfare

University of California, Los Angeles, 2023

Professor Aurora P. Jackson, Chair

This three-paper dissertation aims to examine the relationship between adverse childhood experiences (ACEs) and child behavior problems over time among socioeconomically disadvantaged Black families. The first paper tests a model that links nonresident fathers' involvement, single mothers' parenting stress, and ACEs in early childhood to behavior problems in middle childhood and adolescence. The second paper builds upon this model and explores the relationships between and among neighborhood social cohesion, ACEs, and parenting stress in early childhood and child behavioral outcomes in middle childhood and adolescence. The third paper then investigates the roles of nonresident fathers' social support networks, the father-

mother co-parenting relationship, and adverse childhood experiences (ACEs) in early childhood on child behavioral outcomes in middle childhood and adolescence. These papers fill an important gap in current knowledge and the existing literature by longitudinally examining complex contributing and protective factors for ACEs and child behavior problems in poor Black families. This dissertation concludes with a discussion of the findings of each of the three papers and implications and recommendations for future research.

This dissertation of Jennifer Arianna Ray is approved.

Amy Elizabeth Ritterbusch

Kenneth B. Wells

Jorja Jean Manos Leap

Aurora P. Jackson, Committee Chair

University of California, Los Angeles

2023

DEDICATION

This dissertation is dedicated to my incredible mother, Margaret S. Ray, M.D.

Table of Contents

Abstract.....ii

Committee Page.....iv

Dedication Page.....v

Table of Contents.....vi

List of Tables.....ix

List of Figures.....x

Curriculum Vitae.....xi

Chapter 1. Introduction to Dissertation.....1

 Introduction.....2

 Statement of the Problem.....2

 Theoretical Framework.....4

 References.....6

Chapter 2. Adverse Childhood Experiences in Early Childhood and Behavior Problems in
Middle Childhood and Adolescence: The Roles of Nonresident Fathers’ Involvement and
Mothers’ Parenting Stress in Single-Parent Black Families.....9

 Abstract10

 Introduction.....11

 Nonresident Fathers’ Involvement, Mothers’ Parenting Stress, ACEs and Children’s
Behaviors.....12

 Method.....15

 Analysis.....20

 Results.....20

Discussion.....	24
References.....	28
Chapter 3. Single Mothers’ Perceptions of Neighborhood Social Cohesion, Parenting Stress, Adverse Childhood Experiences in Early Childhood and Black Children’s Behavior Problems in Middle Childhood and Adolescence.....	
Abstract	35
Introduction.....	36
Person-Process-Context Theoretical Model.....	37
Method.....	40
Analysis.....	43
Results.....	45
Discussion.....	48
References.....	52
Chapter 4. Nonresident Fathers’ Social Support Networks, Co-parenting, Adverse Childhood Experiences in Early Childhood and Child Behavior Problems Over Time among Poor Black Youth.....	
Abstract	59
Introduction.....	60
Nonresident Fathers’ Social Support, Co-parenting, ACEs, and Children’s Behavior.....	61
Method.....	64
Analysis.....	69
Results.....	69

Discussion.....	73
References.....	78
Chapter 5. Conclusion of Dissertation.....	86
Conclusion.....	87
Implications.....	89
Recommendations for Future Research.....	89
References.....	91

List of Tables

Chapter 2

Table 1. Mothers' Demographic and Socioeconomic Characteristics.....	17
Table 2. Fathers' Demographic and Socioeconomic Characteristics.....	18
Table 3. Adverse Childhood Experiences.....	20
Table 4. Descriptive Statistics and Correlations for Study Variables.....	22
Table 5. Decomposition of Standardized Direct and Indirect Effects	24

Chapter 3

Table 1. Mothers' Demographic and Socioeconomic Characteristics.....	43
Table 2. Descriptive Statistics and Correlations Between Study Variables.....	48
Table 3. Decomposition of direct and indirect effects.....	50

Chapter 4

Table 1. Mothers' Demographic and Socioeconomic Characteristics.....	68
Table 2. Fathers' Demographic and Socioeconomic Characteristics.....	69
Table 3. Descriptive Statistics and Correlations for Study Variables.....	72
Table 4. Decomposition of Standardized Direct and Indirect Effects.....	75

List of Figures

Chapter 2

Figure 1. Proposed Conceptual Model.....15

Figure 2. Observed Model.....24

Chapter 3

Figure 1. Conceptual Model.....42

Figure 2. Observed Model.....47

Chapter 4

Figure 1. Conceptual Model.....65

Figure 2. Observed Model.....73

Curriculum Vitae

EDUCATION

- 2023
(Expected) **Ph.D. Candidate** Social Welfare, University of California, Los Angeles
Dissertation: *Adverse Childhood Experiences in Early Childhood and Behavior Problems in Middle Childhood and Adolescence among Poor Black Children in Single-Mother Families: Nonresident Fathers' Involvement, Mothers' Parenting Stress, Coparenting and Perceptions of Neighborhood Social Cohesion*
Committee: Aurora P. Jackson (Chair), Amy Ritterbusch, Jorja Leap, Kenneth B. Wells
- 2013 **M.S.W.** University of Southern California
Concentration: Mental Health
Sub-concentration: Systems of Recovery from Mental Illness
- 2009 **B.A.** Psychology, University of California, Los Angeles
- 2007 **A.A** Liberal Studies, Santa Barbara City College

PUBLICATIONS

Peer-Reviewed Journal Articles

Ray, J.A., Choi, J. K., & Jackson, A. P. (2021). Adverse childhood experiences and behavior problems among poor Black children: Nonresident father involvement and single mothers' parenting stress. *Child Abuse & Neglect*, 121, 105264.
<https://doi.org/10.1016/j.chiabu.2021.105264>

Policy Briefs

Jacobs, K.; Koonse, T., **Ray, J.** (2020). Workers as Health Monitors: An Assessment of LA County's Workplace Public Health Council Proposal.

Research Reports

Justie, B., Koonse, T., Macias, M., **Ray, J.**, Waheed, S. (2022). Fast Food Frontline: COVID-19 and Working Condition in Los Angeles. <https://www.labor.ucla.edu/wp-content/uploads/2022/01/Fast-Food-Frontline-Report-1-3-22.pdf>

Leap, J., Lompa, K., Benson, S., **Ray, J.** (2018). The Urban Peace Institute (UPI) Watts Langeloth Project: Advancing Community Violence Reduction Strategies.

Leap, J., Mansfield, M., Benson, S. Dorsey, M., Gomez, W., Leap, S., Lompa, K., Medrano, A., **Ray, J.** (2018). Harvard Park Community Safety Partnership: Evaluating Health and Safety.

RESEARCH EXPERIENCE

- 2021-2022 **Graduate Student Researcher**, Institute for Research on Labor and Employment, UCLA Labor Center
Principal Investigators: Tia Koonse, JD and Saba Waheed
Project: Fast Food Frontline: COVID-19 and Working Condition in Los Angeles
Responsibilities: Developed survey instrument, conducted qualitative interviews, assisted with data cleaning and quantitative analysis, provided trainings for surveyors, participated in team meetings, report writing.
- 2020 **Graduate Student Researcher**, Institute for Research on Labor and Employment, UCLA Labor Center & UC Berkeley Labor Center
Principal Investigators: Tia Koonse, JD and Ken Jacobs
Project: Workers as Health Monitors: An Assessment of LA County’s Workplace Public Health Council Proposal
Responsibilities: Collaborated with UC Berkeley Labor Center on COVID-19 workplace safety regulations policy brief and public health council proposal. Conducted research on racial health disparities and cost-benefit analysis for proposed measure compliance.
- 2018-2019 **Researcher**, The Urban Peace Institute Watts Langeloth Project, Leap & Associates, Inc.
Principal Investigators: Jorja Leap, PhD
Responsibilities: Organized project evaluation for community violence reduction strategy project. Duties included: literature review, curating interview protocols, qualitative data collection, qualitative and quantitative analysis, and completing written report.
- 2018 **Researcher Assistant**, Harvard Park Community Safety Partnership Evaluation, Leap & Associates, Inc.
Principal Investigators: Jorja Leap, PhD
Responsibilities: Conducted in-depth qualitative interviews with various identified stakeholders (LAPD, American Heart Association, community leaders) for program evaluation and report.

TEACHING EXPERIENCE

- 2022 **Teaching Fellow**, UCLA Luskin School of Public Affairs, Graduate Program *Dynamics of Human Behavior: Adult and Older Adult Risk, Resiliency and the Development of Psychopathology*
- 2022 **Teaching Fellow**, UCLA Luskin School of Public Affairs, Graduate Program *Dynamics of Human Behavior: Child and Adolescent Psychopathology*

Chapter 1

Introduction to Dissertation

Children living in poverty are more than twice as likely as their nonpoor counterparts to be exposed to adverse childhood experiences (ACEs) in early childhood—defined broadly as child maltreatment and family dysfunction—that are associated with poor social, emotional, and health outcomes over the life course (Child Trends, 2019; Felitti, Anda, Nordenberg, Williamson, Spitz, Edwards, & Marks, 1998; Choi, Wang, & Jackson, 2019; Flaherty, Thompson, Dubowitz, 2013). Most studies linking ACEs to poor outcomes have relied on retrospective data from adults (Jimenez, Wade, Lin, Morrow, & Reichman, 2016). Although ACEs in early childhood have been linked to poor adult outcomes, research focusing on early childhood ACEs and developmental outcomes during the middle childhood and adolescent years have been understudied (Hunt, Berger & Slack, 2017), especially among children in economically and socially disadvantaged Black families.

Black children and youth are more likely than others to have three or more adverse childhood experiences (Child Trends, 2013). According to the Centers for Disease Control and Prevention (CDC), these experiences can include experiencing child abuse, neglect, witnessing violence, death of a family member, or growing up in a household with substance use or mental illness (Centers for Disease Control and Prevention, 2023). These children also are twice as likely as all other children to grow up in households without the involvement of a biological father (Cheadle, Amato, & King, 2010; Livingston & Parker, 2011). Approximately 60% are being raised in a family headed by an unmarried single-parent mother and these families have extraordinarily high rates of poverty (Carlson, McLanahan, & Brooks-Gunn, 2008; Hamilton, Martin, & Ventura, 2011; Jones & Mosher, 2013), which is associated, in turn, with large shares of stress in the parenting role (Brooks-Gunn & Duncan, 1997; Raikes & Thompson, 2005). While studies have shown that poverty diminishes the quality of parenting, especially among single mothers with limited access to social and financial support (McLoyd, 1990; Luthar &

Ciciolla, 2015), less is known about nonresident fathers' social support networks and how these networks might influence their involvement with their young children (Castillo & Sarver, 2012; Cheadle et al., 2010).

In addition, a number of studies have found links between stressful family processes in children's preschool years and later conduct problems in adolescence (Haapsalo & Tremblay, 1994; Kilgore, Snyder & Lentz, 2000). Children growing up in households without the involvement of both biological parents are at greater risk for negative developmental and well-being outcomes than their counterparts who grow up in households in which both biological parents are involved (Carlson & Corcoran, 2001; Cheadle et al., 2010). More recently researchers also have found protective effects of neighborhood factors such as neighborhood social cohesion on developmental outcomes for children following stressful life events, including adverse experiences and mothers' parenting stress in early childhood (see, for example, Kingsbury, Clayborne, Coleman, & Kirkbride, 2020; Pei, Wang, Wu, McCarthy & Wu, 2020; McCloskey & Pei, 2019).

This dissertation consists of three studies that aimed to examine the relationships between adverse childhood experiences and child behavior problems in socially and economically disadvantaged Black families comprised of nonresident fathers, single mothers and their children. The first study of this dissertation is titled *Adverse Childhood Experiences in Early Childhood and Behavior Problems in Middle Childhood and Adolescence: The Roles of Nonresident Fathers' Involvement and Mothers' Parenting Stress in Single-Parent Black Families*. This study explores the associations between and among parenting stress among poor single Black mothers, indicators of adverse childhood experiences in early childhood, and whether nonresident fathers' involvement in the preschool years—a critical period of opportunity and vulnerability (Shonkoff & Phillips, 2000)—affect poor black children's socioemotional

development and behavior problems over time. The second study, titled *Single Mothers' Perceptions of Neighborhood Social Cohesion, Parenting Stress, Adverse Childhood Experiences in Early Childhood and Black Children's Behavior Problems in Middle Childhood and Adolescence*, investigates the relationships between and among mothers' perceptions of neighborhood social cohesion, mother's parenting stress, ACEs and child developmental outcomes across time. The third study is titled *Nonresident Fathers' Social Support Networks, Co-parenting, Adverse Childhood Experiences in Early Childhood and Child Behavior Problems Over Time among Poor Black Youth*. This study builds on the first two by exploring nonresident fathers' perceived access to social support networks and whether and how these networks might influence their involvement with their young children over time and their co-parenting relationship with their child's mother. All three studies use data from a subsample of low-income unmarried Black mothers with a focal child during early to middle childhood and adolescence from the Future of Families and Child Wellbeing Study (FFCWS). Each study utilizes structural equation modeling with latent variables to test the direct and indirect effects of the proposed conceptual models.

Theoretical Framework

This dissertation is informed by Bronfenbrenner's person-process-context model (Bronfenbrenner, 1995). The person-process-context model details a paradigm for assessing the impact of economic hardship on family processes as a function of personal characteristics of family members (for example, single mothers' parenting stress, children's age, and biological fathers' involvement). In the present context, the principal assumptions of this model are that economic hardship—characterized by stresses associated with difficulties making ends meet—diminishes the capacity for more adequate parenting, thereby increasing the likelihood of children's exposure to ACEs; that economic hardship affects children both directly and indirectly

through its impact on stress in the parenting role; and that proximal processes that occur between parents—in the present context single mothers and nonresident fathers—and children in the home environment are considered key mechanisms by which child developmental potential is realized. This model is also suitable for assessing the influence of neighborhood social cohesion (context) on family processes as a function of personal characteristics of family members.

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Chapter 2

Adverse Childhood Experiences in Early Childhood and Behavior Problems in Middle Childhood and Adolescence: The Roles of Nonresident Fathers' Involvement and Mothers' Parenting Stress in Single-Parent Black Families

Abstract

Background: Black children from socially and economically disadvantaged families are more likely than others to be exposed to adverse childhood experiences (ACEs).

Objective: To test a model linking nonresident fathers' involvement, single mothers' parenting stress, and ACEs in early childhood to behavior problems in middle childhood and adolescence.

Participants and Setting: Four waves of longitudinal data from a subsample of 800 unmarried Black mothers, nonresident fathers, and their focal children (at ages 3, 5, 9, and 15) from the Future of Families and Child Wellbeing Study were used.

Method: Structural equation modeling with latent variables was used to test direct and indirect effects.

Results: Mothers' parenting stress was associated directly with children's increased exposure to ACEs in early childhood ($\beta = 0.41, p < .01$) and increased behavior problems in middle childhood and adolescence ($\beta = 0.30, p < .01$). ACEs in early childhood were associated directly with increased behavior problems in middle childhood and adolescence ($\beta = 0.28, p < .01$). But increased fathers' involvement was associated directly with mothers' reduced parenting stress ($\beta = -0.15, p < .05$) and indirectly (through parenting stress) with a reduction in the children's likelihood of exposure to ACEs in early childhood (indirect effect = $-0.06, p < .01$).

Conclusion: Findings suggest that nonresident Black fathers' involvement may serve as a protective factor with respect to ACEs in early childhood and behavioral consequences over time for economically and socially disadvantaged Black children. Policy and practice implications are discussed.

Key words: adverse childhood experience, behavior problems, parenting stress, father involvement

Introduction

Approximately half (45%) of the children living in the United States have experienced at least one adverse childhood experience (ACE), defined broadly as child maltreatment and household dysfunction (Child Trends, 2019; Felitti, Anda, Nordenberg, Williamson, Spitz, Edwards, & Marks, 1998). ACEs in early childhood are associated with poor social, emotional and health outcomes over the life course (Centers for Disease Control & Prevention, 2014; Child Trends, 2019; Felitti, Anda, Nordenberg, Williamson, Spitz, Edwards, Koss, & Marks, 1998). However, most studies of ACEs have relied on retrospective data gathered from adults (Jimenez, Wade, Lin, Morrow, & Reichman, 2016) and, while ACEs in early childhood have been linked to poor adult outcomes, early childhood ACEs and behavioral outcomes during the middle childhood and adolescent years have been understudied (Burke, Hellman, Scott, Weems & Carrion, 2011; Hunt, Berger & Slack 2017; McKelvey, Edge, Mesman, Whiteside-Mansell & Bradley, 2018; Ray, Choi, & Jackson, 2021).

Black children and youth are more likely than all other children (i.e. their non-Hispanic white and Hispanic peers) to have three or more adverse childhood experiences (Child Trends, 2016) and over half (60%) of these children are being raised in an impoverished family headed by a single mother (Carlson, McLanahan, & Brooks-Gunn, 2008; Hamilton, Martin, & Ventura, 2011; Jones & Mosher, 2013). Economic hardship is one of the most commonly reported ACEs in the United States and children who live in poverty are more likely than others to be exposed to ACEs in early childhood (Child Trends, 2019). This is important because some have found that poverty may diminish the quality of parenting (Luthar & Ciciolla, 2015; McLoyd, 1990), and that parenting stress is a high-risk factor for children's exposure to ACEs (Crouch, Radcliff, Brown & Hung, 2019). There is evidence that fathers' involvement in poor single-parent families is important for the well-being of both the children and their mothers (Cabrera, Fitzgerald,

Bradley & Roggman, 2007; Lamb, 2004; Kainz, Eliasson & Von Post, 2010; Tamis-LeMonda & Cabrera, 2002; Waldfogel, Craigie, & Brooks-Gunn, 2010) and, while recent findings show that nonresident fathers' involvement may serve a protective function with respect to poor Black children's exposure to ACEs in early childhood (Ray et al., 2021), limited research has examined longitudinally whether fathers' involvement with single mothers and their children in economically and socially disadvantaged Black families is a protective factor for young children in the context of mothers' parenting stress, ACE exposure, and behavioral outcomes in middle childhood and adolescence.

This study seeks to reduce this deficit in the literature. To do so, data from a subsample of low-income unmarried Black mothers with a focal child during early childhood to adolescence from the Future of Families and Child Wellbeing Study (FFCWS) were used to examine longitudinally the effects of nonresident fathers' involvement, single mothers' parenting stress and adverse childhood experiences in early childhood (ages 3 to 5) on behavior problems in middle childhood and adolescence (ages 9 and 15).

Nonresident Fathers' Involvement, Mothers' Parenting Stress, ACEs and Children's Behaviors

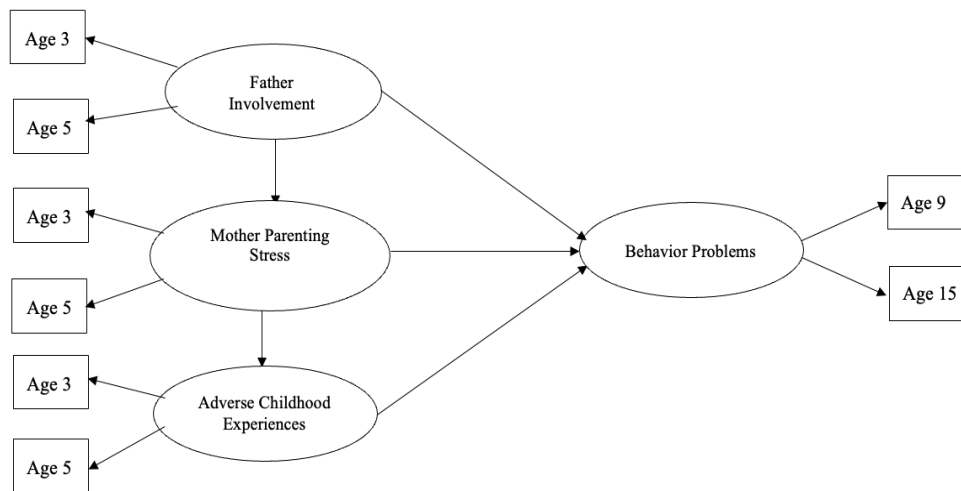
This study was guided by Bronfenbrenner's person-process-context model that propounds a paradigm for assessing the impact on child developmental outcomes of personal characteristics of family members (e.g., mothers' parenting stress, children's age), family processes (e.g., fathers' involvement), and particular childhood experiences (e.g., ACEs in early childhood) (Bronfenbrenner, 1995). In the present context, principal assumptions of this model include the following hypothesized relations: single mothers' parenting stress may diminish their capacity for more adequate parenting thereby increasing the likelihood of the focal children's exposure to ACEs in early childhood. If nonresident fathers' involvement is protective, then

their greater involvement might be associated with the mothers' reduced parenting stress (and thereby more adequate parenting), fewer ACEs, and the children's fewer behavior problems in middle childhood and adolescence. According to this theoretical perspective, complex reciprocal interactions that occur between parents and their children in the home environment are considered key mechanisms by which more optimal child development is realized (Eamon, 2002).

The conceptual model is depicted in Figure 1. It begins with nonresident fathers' involvement in the focal children's preschool years (ages 3 to 5) and proposes that it will be related directly and negatively to mothers' parenting stress early on, and behavior problems in middle childhood and adolescence (ages 9 and 15). These hypothesized relations are consistent with studies that have found that fathers' involvement benefits the well-being of children and the children's mothers (Cabrera, Fitzgerald, Bradley & Roggman, 2007; Jackson, Choi, Preston, 2015; Jackson, Choi, Preston, 2019; Kainz, Eliasson & Von Post, 2010; Lamb, 2004; Tamis-LeMonda & Cabrera, 2002; Waldfogel, Craigie, & Brooks-Gunn, 2010). Studies have shown that fathers' ability to share parenting responsibilities is associated with reduced stress for mothers (Milkie & Denny, 2014) and, more recently, some have indicated that nonresident fathers' involvement may buffer the adverse consequences for poor Black children of exposure to ACEs in early childhood (Ray et al., 2021). The expected results at the outset were also that mothers' parenting stress would be related positively to children's behavior problems and children's increased exposure to ACEs. Therefore, Figure 1 shows paths from mothers' parenting stress to ACEs at ages 3 to 5 and from mothers' parenting stress to child behavior problems at ages 9 and 15. Studies also have shown that single mothers with limited access to supportive resources, such as, in the present context, fathers' involvement, report greater parenting stress and diminished parenting quality (Luther & Ciciolla, 2015; McLoyd, 1990) and

that children raised in homes where a parent—often a single mother—reports high parenting stress are more likely than their peers to experience four or more ACEs in early childhood (Crouch, Radcliff, Brown & Hung, 2019). The relationship between ACEs and child behavioral outcomes has been well documented in the literature (Burke et al., 2011; Kerker, Zhang, Nadeem, Stein, Hurlburt, Heneghan & Horwitz, 2015; Ray, et al., 2021). For example, researchers have found that ACEs in early childhood are significantly associated with children’s behavioral and academic problems in middle childhood (McKelvey et al., 2018) and one study found that three or more ACEs nearly quadrupled the risk of experiencing externalizing behavior problems and more than quadrupled the risk of experiencing internalizing problems for young children (Clarkson Freeman, 2014). Therefore, it was expected that the prevalence of ACEs in early childhood to influence child behavioral outcomes into children's middle childhood and adolescence based on the work of others who have found that family stress can have developmental consequences for children longitudinally (Gajos, Leban, Weymouth & Cropsey, 2023; Conger et al., 1992, 1993; Haapsalo & Tremblay, 1994; Kilgore, Snyder & Lentz, 2000; Kerker, et al., 2015).

Figure 1. Proposed Conceptual Model



Method

Study Sample

Data for this study are from the Future of Families and Child Wellbeing (FFCWS)—formerly the Fragile Families & Child Wellbeing Study— which is a national longitudinal research study designed to examine the characteristics of unmarried parents, the nature of their relationships, and the consequences for their children (FFCWS, 2023). The FFCWS follows a stratified, multistage sample of mothers, fathers, primary caregivers, and a focal child born between 1998 and 2000 (Reichman, Teitler, Garfinkel, & McLanahan, 2001). Data were collected from 4,898 households in 20 U.S. cities with populations of 200,000 or more. Mothers of new babies were sampled from maternity ward lists and biological fathers were recruited at the hospital at the time of the child’s birth. Black families were oversampled, and births to unmarried mothers were oversampled by a ratio of 3 to 1 (FFCWS, 2023). Baseline interviews with mothers, fathers, and primary caregivers were conducted shortly after their child’s birth and follow-up interviews were conducted at years 1, 3, 5, 9, and 15 from 1999 to 2020 (FFCWS, 2023; Reichman et al., 2001).

The subsample for the present study consisted of 800 unmarried Black mothers, fathers, and their focal preschool child, aged 3 to age 15 (421 boys and 379 girls). Data were utilized from parent surveys and in-home interviewer observations and focused on families experiencing poverty, defined as family income less than 100 percent of the federal poverty threshold. Single Black mothers who had never lived in poverty at any time point during the first nine years of the child’s life and teenage mothers who were 17 years old or younger were excluded from this study subsample. Table 1 shows that almost two thirds of the sampled mothers (66.2%) were 24 years old or younger (on average 23.7 years of age); over a third (34.9%) had a high school diploma or a GED; nearly two thirds (63.7%) had some college or higher educational attainment. The

mothers in this sample worked an average of 35.2 hours a week (S.D. = 9.6); over two thirds of the mothers (67.6%) worked 30 hours or longer per week. More than half of the mothers (55.4%) received public assistance or other government benefits and the average reported annual income was \$7,028.5 (S.D. = 6,855.6). Approximately half of the sampled fathers (51%) were 24 years old or younger (on average 25.8 years of age); a little less than half (46.2%) had a high school diploma or a GED; and 17.7% had some college or higher educational attainment. The fathers worked an average of 40.8 hours a week (S.D. = 11.5); almost three-quarters of the fathers (71.7%) worked 30 hours or longer per week; 8% received public assistance or other government benefits; and the average reported annual income was \$27450 (S.D. = 27822). The demographic and socioeconomic characteristics of the sampled mothers and nonresident fathers are shown in Table 1 and Table 2.

Table 1. Mothers' Demographic and Socioeconomic Characteristics ($n = 800$)

Variables	Frequency	Percent
<u>Mother's Age</u>		
18 – 19	166	20.8
20 – 24	363	45.4
25 – 29	169	21.1
30 – 39	92	11.5
40 – 43	10	1.3
(Mean, SD)	(M = 23.7)	(SD = 5.1)
<u>Mother's Education</u>		
Some high school or less	11	1.4
High school diploma or GED	279	34.9
Some college or 2-year degree	331	41.4
Bachelor's degree	165	20.7
Graduate school or higher	13	1.6
<u>Work Hour</u>		
Unemployed	65	8.1
19 hours or less	80	10.0
20 – 29 hours	114	14.3
30 – 39 hours	489	61.1
40 hours or more	52	6.5
(Mean, SD)	(M = 35.2)	(SD = 9.6)
<u>Welfare Receipt</u>		
Recipient	443	55.4
<u>Child's Gender</u>		

Boy	421	52.7
<u>Annual Income</u>		
\$4,999 or less	345	52.4
\$5,000 – 9,999	154	23.4
\$10,000 – 29,999	113	17.2
\$30,000 or higher	47	7.1
(Mean, SD)	(M = \$7,028.5)	(SD = 6,855.6)

Table 2. Fathers' Demographic and Socioeconomic Characteristics ($n = 800$)

Variables	Frequency	Percent
<u>Father's Age</u>		
18 – 19	73	12.4
20 – 24	227	38.6
25 – 29	144	24.5
30 – 39	106	18.0
40 – 43	18	3.1
(Mean, SD)	(M = 25.8)	(SD = 6.6)
<u>Father's Education</u>		
Some high school or less	283	37.0
High school diploma or GED	353	46.2
Some college or 2-year degree	118	15.4
Bachelor's degree	10	1.3
Graduate school or higher	0	0
<u>Work Hour</u>		
Unemployed	134	23.4
19 hours or less	7	1.2
20 – 29 hours	21	3.7
30 – 39 hours	69	12.1
40 hours or more	341	59.6
(Mean, SD)	(M = 40.8)	(SD = 11.5)
<u>Welfare Receipt</u>		
Recipient	64	8.0
<u>Child's Gender</u>		
Boy	421	52.7
<u>Annual Income (Household)</u>		
\$4,999 or less	87	14.8
\$5,000 – 9,999	66	11.2
\$10,000 – 29,999	211	35.9
\$30,000 or higher	224	38.1
(Mean, SD)	(M = \$ 27,450)	(SD = 27,822)

Measures

Fathers' involvement at ages 3 to 5. Fathers' frequency of contact was assessed and constructed as the fathers' involvement variable. The frequency of fathers' contact with the child was measured using a single-item scale asking mothers to indicate how many days in the past 30 days the father had seen the child (0 to 30 days).

Mothers' parenting stress at ages 3 to 5. Parenting stress was measured with a 12-item scale adapted from the Early Head Start Study (see, also, Abidin, 1990). Mothers were asked to indicate on a 4-point scale (ranging from 0 = *strongly disagree* to 3 = *strongly agree*) the extent to which they agreed or disagreed with statements such as the following: "you often have the feeling that you cannot handle things very well," "you find yourself giving up more of your life to meet your children's needs than you ever expected," "you feel trapped by your responsibilities as a parent," "since having a child, you have been unable to do new and different things," and "since having a child, you feel that you are almost never able to do things that you like to do." Reliability coefficients were .89 at age 3 and .85 at age 5.

ACEs at ages 3 to 5. ACEs were measured from the mothers' surveys at the child's ages three and five. According to the Center for Disease Control and Prevention Kaiser ACE study (Felitti, Anda, Nordenberg, Williamson, Spitz, Edwards, & Marks, 1998), four categories of child maltreatment (i.e., physical abuse, psychological abuse, physical neglect, and emotional neglect) and four categories of family dysfunction (e.g., mental health issues, substance abuse, incarceration of nonresident father, and domestic violence) were included. Parental divorce/separation were not included as an ACE because only unmarried mothers and the focal children were included in the subsample for the present study. Nonresident father data were used to measure incarceration. Individual ACEs were dichotomized as exposed or not and summed to create a composite score. Table 3 shows that more than half of the sampled children (56.9%)

were found to have adverse childhood experiences ranging from 1 to 6: 32.3% for one ACE, 14.5% for two ACEs, and 10.1% for three or more ACEs.

Table 3. Adverse Childhood Experiences ($n = 800$)

ACE Type	Exposure	No exposure	Prevalence (%)
Physical abuse	180	552	24.6
Psychological abuse	95	365	20.7
Physical neglect	97	633	13.3
Emotional neglect	85	983	12.2
Substance abuse	197	603	24.6
Mental health	75	725	9.4
Incarceration	14	786	1.8
Domestic violence	26	774	3.2
Number of ACE	Frequency		Percent (%)
0	345		43.1
1	258		32.3
2	116		14.5
3	49		6.1
4 to 6	32		4.0
Total	800		100.0
Average	Mean = 0.72		S.D. = 0.68

Note. The total number of cases in each ACE type varies due to missing data.

Behavior problems at ages 9 and 15. Behavior problems were assessed using questions drawn from the behavioral, emotional and social problems scales of the Child Behavior Checklist (CBCL/6-18; Achenbach & Rescorla, 2001). This scale has 111 items that comprise the following subscales: aggressive behavior, withdrawn/depressed, anxious/depressed, attention problems, social problems, rule-breaking behavior, somatic complaints, and thought problems. Mothers were asked to indicate on a 3-point scale (ranging from 0 = *not true* to 2 = *often or very true*) the frequency or intensity of behavior problems such as the following: “child acts too young for his or her age,” “child fails to finish things he or she starts,” “child can’t concentrate or can’t pay attention for long,” “child argues a lot,” “child is cruel, bullies, or shows meanness to others,” “child is disobedient at home/school.” Reliability coefficients for the measure of behavioral problems were .96 at age 9 and .92 at age 15.

Data Analysis

Measurement of the hypothesized conceptual model

In the proposed model, which comprises the structure and measurement representations (see Figure 1), the latent variables are presented in ovals and the measured variables in rectangles (Ullman, 2012). The model begins with nonresident father involvement measured at ages 3 and 5 that comprise a common latent variable. The latent variable of nonresident father involvement then shows paths to the latent variable of the mother parenting stress (indicators measured at ages 3 and 5), which, in turn, is related to adverse childhood experiences (indicators measured at ages 3 and 5), and subsequent behavior problems (indicators measured at ages 9 and 15). The nonresident father involvement, mother parenting stress, and adverse childhood experiences latent variables are also hypothesized to relate directly to behavior problems over time.

The terms effects and pathways (or paths) are used throughout in a statistical sense regarding the contribution of variables in the model under investigation without implying a causal priority of one over the other. This approach is consistent with that reported with Dotterer et al., (2009). The analyses that follow present an empirical evaluation of the proposed model.

Results

Descriptive analyses

Means, standard deviations, sample sizes, and Pearson product moment correlations of all measured variables are presented in Table 4. Significant correlations in the hypothesized direction emerged, indicating that it was appropriate to proceed with model estimation based on the conceptual model, $p < .05$. The measured variables served as indicators of their respective latent variables. It should be noted that there are several primary advantages of latent variables: They incorporate unequal weights for the items measuring them, which allows for differences in the metrics of the observed variables, and factor scores are adjusted for measurement error,

thereby permitting the testing of interrelations among hypothesized constructs when observed variables are measured with error (Bollen, 1989, 2002).

Table 4. Descriptive Statistics and Correlations for Study Variables

	<i>M</i>	<i>SD</i>	<i>N</i>	1	2	3	4	5	6	7	8
Father Involvement											
1. Age 3	8.93	10.65488	1000	1.00							
2. Age 5	8.97	10.76508	1000	0.51**	1.00						
Mother Parenting Stress											
3. Age 3	1.29	0.69	749	-0.09	-0.11*	1.00					
4. Age 5	1.26	0.71	763	-0.04	-0.03	0.59**	1.00				
Adverse childhood experiences											
5. Age 3	0.86	1.07	800	-0.20**	-0.24**	0.23**	0.20**	1.00			
6. Age 5	0.92	1.07	800	-0.19**	-0.22**	0.16**	0.21**	0.42**	1.00		
Behavior problems											
7. Age 9	0.47	0.17	748	-0.03	0.02	0.21**	0.24**	0.17**	0.18**	1.00	
8. Age 15	0.44	0.27	800	0.07	-0.08	0.21**	0.24**	0.18**	0.20**	0.52**	1.00

Model Estimation

There were no univariate or multivariate outliers as evaluated through R (R Core Team, 2022) and EQS 6.4 (Multivariate Software, 2018). However, the data did not meet the assumption of multivariate normality as indicated by the Yuan et al.'s (2004) normalized coefficient of kurtosis of 9.49, indicating maximum likelihood estimation with robust fit indices and standard errors would be appropriate (Bentler, 2008). As expected in longitudinal research, a total of 744 of 6400 (11.6%) data points were missing. Little's missing completely at random test (Little, 1988) was applied to all study variables using the naniar package (Tierney et al., 2021) in R (R Core Team, 2022). It was determined that the data were not missing completely at random, $\chi^2(115) = 175, p < .001$, indicating that full information maximum likelihood imputation using observed standard errors would be appropriate. Latent variable analyses were performed using EQS 6.4 software (Multivariate Software, 2018). All paths depicted in Figure 1 as well as error

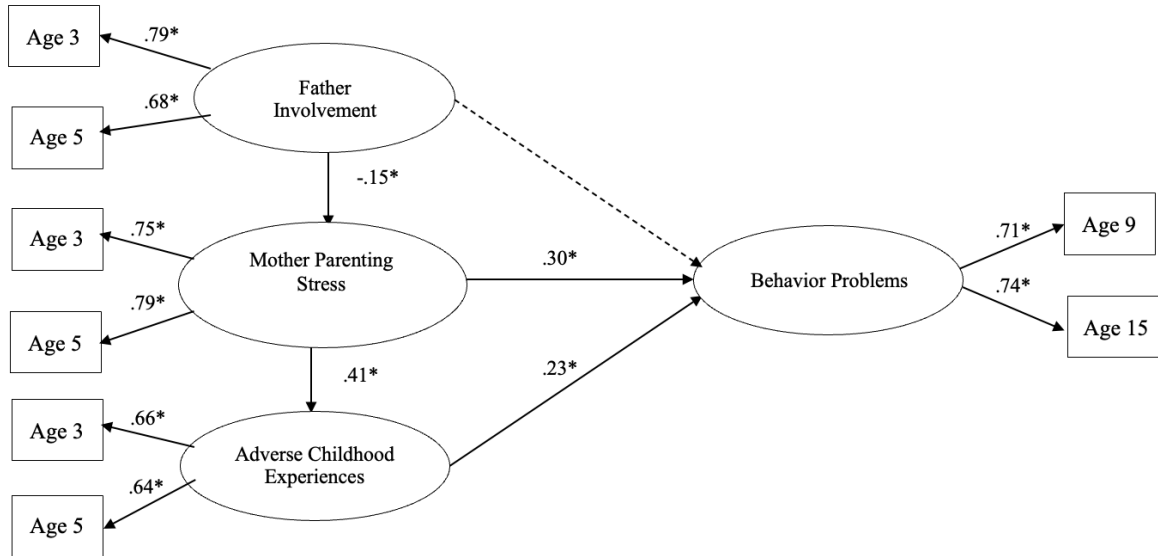
variances of measured variables were freely estimated. Finally, all paths not shown were fixed to 0, and thus, not estimated.

These analyses compared the proposed conceptual model with the set of actual data. The closeness of the hypothetical model to the empirical data was evaluated statistically through goodness-of-fit indexes and the RMSEA. Additionally, Yuan-Bentler robust fit statistics [the Yuan-Bentler chi-square, the Robust Comparative Fit Index (RCFI), and the Bentler-Bonett non-normed fit index (NNFI)] were interpreted to accommodate sample size (Bentler, 2008).

As depicted in Figure 1, the model with 15 degrees of freedom produced a Yuan-Bentler χ^2 of 58.11, and RCFI of 0.970, a Bentler-Bonett NNFI of 0.944, and an RMSEA of 0.047 (90% CI 0.030 – 0.064), all indicating adequate fit to the data. Furthermore, the model R^2 of .237 indicated the model explained approximately 24% of the variability in behavior problems. Figure 2 provides the standardized parameter estimates, representing beta-weights (one-way arrows), with all measured variables loaded positively and significantly on their respective latent variables, $p < .05$. The path between nonresident fathers' involvement and the mothers' parenting stress (beta = -0.15) is consistent with the expected effect, indicating that increases in fathers' involvement is associated with reduced mothers' parenting stress. Figure 2 shows, moreover, that mothers' parenting stress has the expected positive association with adverse childhood experiences (beta = 0.41), which, in turn, has the expected positive relationship to behavior problems (beta = 0.23) at ages 9 (beta = 0.71) and 15 (beta = 0.74). Additionally, Figure 2 shows that increases in mothers' parenting stress is directly associated with increases in child behavior problems (beta = 0.30). However, although fathers' involvement early on was not significantly directly associated with child behavior problems in middle childhood and adolescence (beta = 0.04) as expected, it was related indirectly to fewer adverse childhood experiences in the children's early childhood (beta = -0.06) and fewer behavior problems in

middle childhood and adolescence (beta = -0.06) (see Table 5).

Figure 2. Observed Model (N = 800)



Note. Yuan-Bentler $\chi^2 = 13.51$, RCFI = 1.001, Bentler-Bonett NNFI = 1.015, RMSEA = .000 (90% CI .000-.016).
* $p < .05$.

Table 5. Decomposition of Standardized Direct and Indirect Effects

Predictor	Dependent Variable	Direct Effect	Indirect Effect	Total Effects
Father Involvement	Mother Parenting Stress	-0.15*	—	-0.15*
	Adverse Childhood Experiences	—	-0.06*	-0.06*
	Behavior Problems	0.04	-0.06*	-0.02
Mother Parenting Stress	Adverse Childhood Experiences	0.41**	—	0.41**
	Behavior Problems	0.30**	.12**	0.42**

Predictor	Dependent Variable	Direct Effect	Indirect Effect	Total Effects
Adverse Childhood Experiences	Behavior Problems	0.28**	—	0.28**

Note. Dashes indicate no effect.
 * $p < .05$. ** $p < .01$.

Discussion

Informed by Bronfenbrenner's (1995) person-process-context model, this study investigated the relationships between and among nonresident fathers' involvement, single mothers' parenting stress, children's exposure to ACEs in early childhood, and behavior problems in middle childhood and adolescence. The results of this study are in accordance with the theoretical expectations. It was hypothesized that nonresident fathers' involvement would be associated with a reduction in single mothers' parenting stress at ages 3 and 5 and with children's behavior problems in middle childhood and adolescence (ages 9 and 15). It was expected further that mothers' parenting stress would be directly related to ACEs and child behavior problems due to single mothers' diminished capacity for more adequate parenting deriving from an excess of negative life events and chronic conditions (McLoyd, 1990). The relationship between ACEs and child behavior problems has been well established (Zhang & Mersky, 2020). Therefore, it was expected that children's exposure to ACEs would be directly associated with children's behavior problems. These assumptions are based on the complex reciprocal interactions that occur between parents and their children in the home environment and are, for the most part, in accordance with the theoretical expectation (Bronfenbrenner, 1986) of this study.

More explicitly, the results reveal that nonresident fathers' involvement at ages 3 and 5 was directly and negatively associated with mothers' parenting stress at ages 3 and 5. Mothers' parenting stress was associated with children's increased exposure to ACEs and increased child

behavior problems. The results also show that ACEs at ages 3 and 5 were positively associated with children's behavior problems at ages 9 and 15. Surprisingly, fathers' involvement was not directly associated with children's behavior problems as expected, but the results do show indirect effects between fathers' involvement and child behavior problems, and fathers' involvement and children's exposure to ACEs, through mothers' parenting stress.

These results suggest that nonresident fathers' involvement is important for Black children and may protect them from the detrimental effects of exposure to ACEs in early childhood. This is important because studies have found that the presence of protective factors often are associated with reductions in children's exposures to ACEs and the related negative effects of such exposures (Crouch et al., 2019; Ray et al., 2021). As previously mentioned, research shows that fathers' involvement with their children has beneficial outcomes for low-income single mothers and their children (Jackson, Preston, & Thomas, 2013; Jackson, et al., 2015; Adamsons and Johnson, 2013). The results are consistent with this research and other studies linking nonresident father involvement to beneficial child developmental outcomes (Coates & Phares, 2019).

The findings suggest that increasing nonresident father involvement may help reduce the adverse influences of mothers' parenting stress on parenting quality and child developmental outcomes. State and federal policy initiatives should support intervention programs that encourage fathers' involvement with their children and promote psychoeducation about the importance of fathers' involvement for children's health and well-being. In addition, sharing information with single mothers at well-baby clinics about the research on the benefits for mothers and children of healthy involvement by fathers, especially nonresident fathers (who might be less likely to stay involved) with their children during early childhood should be an important part of medical and social service interventions (Coates & Phares, 2019). Since

research shows that the mother-father relationship is one of the primary predictors of fathers' involvement with their children (McLoyd, 1990; Tach, Mincy & Edin, 2010; Cabrera et al., 2008; Ryan, Kalil, & Ziol-Guest, 2008; Coley & Chase-Lansdale, 1999; Kana'iaupuni, Donato, Thompson-Colon, & Stainback, 2005), developing and implementing early interventions that promote positive and healthy co-parenting relationships between unmarried parents may benefit child development and help build resilience for at-risk children.

There are several notable limitations that should be considered when interpreting the findings of this study. First, it is important to note that associations do not imply causation. Second, fathers' involvement was measured by the frequency of fathers' contact with their children and there may be other measures of fathers' involvement such as financial support and the father's relationship with the child's mother that might better account for fathers' contributions and involvement with their children. Third, most measures were based on self-report data, which have well-known limitations. For example, children's ACEs and behavioral problems might have been underreported by participating mothers due to social desirability (Hardt and Rutter 2004). Lastly, while this study examined nonresident fathers' involvement, other potentially protective factors in the home such as involvement by other family members or added socially supportive resources were not examined (Castillo and Sarver, 2012). Future studies might investigate protective factors in greater depth as well as factors that might be associated with sustained involvement by nonresident fathers in socially and economically disadvantaged Black families.

Despite these caveats, the current study provides a contribution to the existing literature by examining longitudinally nonresident fathers' involvement, single mothers' parenting stress, and ACEs in poor Black children's early childhood and their effects on child behavior problems in middle childhood and adolescence. Few studies have done this. In showing how nonresident

Black fathers' involvement with preschoolers may be associated with significant benefits over time, this study has begun to fill an important gap in current knowledge.

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Chapter 3

Single Mothers' Perceptions of Neighborhood Social Cohesion, Parenting Stress, Adverse Childhood Experiences in Early Childhood and Black Children's Behavior Problems in Middle Childhood and Adolescence

Abstract

Background: This study examined the roles of neighborhood social cohesion, adverse childhood experiences (ACEs), and parenting stress in early childhood on child behavioral outcomes in middle childhood and adolescence among socioeconomically disadvantaged Black families.

Objective: To test a model linking perceptions of neighborhood social cohesion, single mothers' parenting stress, ACEs, and behavior problems in middle childhood and adolescence.

Participants and Setting: Four waves of longitudinal data from a subsample of 800 unmarried Black mothers and their children (at ages 3, 5, 9, and 15) from the Future of Families and Child Wellbeing Study, a nationally representative data set, were used.

Method: Structural equation models with latent variables were used to measure direct and indirect effects.

Results: Neighborhood social cohesion was significantly and negatively associated with parenting stress ($\beta = -.34, p < .05$); parenting stress was significantly and positively related to adverse childhood experiences ($\beta = .40, p < .05$) and behavior problems ($\beta = .32, p < .05$); Adverse childhood experiences were significantly and positively related to behavior problems ($\beta = .26, p < .05$); and behavior problems were indirectly influenced by neighborhood social cohesion through adverse childhood experiences ($\beta = -.14, p < .05$) and parenting stress ($\beta = .10, p < .05$).

Conclusion: Neighborhood factors may play a significant role in parenting stress, adverse childhood experiences in early childhood, and children's behavior problems in middle childhood and adolescence among some single mothers and children in economically and socially disadvantaged Black families. Interventions that enhance neighborhood social cohesion and foster supportive interactions among community members and organizations are recommended.

Key words: neighborhood social cohesion, adverse childhood experience, parenting stress

Introduction

Adverse childhood experiences (ACEs), defined broadly as child maltreatment and family dysfunction, are associated with poor social, emotional, and health outcomes over the life course (Child Trends, 2019; Choi, Wang, & Jackson, 2019; Felitti, Anda, Nordenberg, Williamson, Spitz, Edwards, Koss, & Marks, 1998; Flaherty, Thompson, & Dubowitz, 2013). Black children living in poverty are more than twice as likely as all other children to be exposed to adverse childhood experiences in early childhood (Carlson & McLanahan, 2006; Cheadle, Amato, & King, 2010; Livingston & Parker, 2011; Hamilton, Martin, & Ventura, 2011; Jones & Mosher, 2013). They also are more likely than other children to grow up in households headed by poor single-parent mothers (Cheadle et al., 2010; Livingston & Parker, 2011). Studies have shown that poverty is associated with greater parenting stress and diminished parenting quality, especially among single mothers with limited access to social and financial support (Luther & Ciciolla, 2015; McLoyd, 1990). While studies also have shown that ACEs in early childhood are linked to poor adult outcomes, most of the applicable evidence has relied on retrospective data from adults (Jimenez, Wade, Lin, Morrow, & Reichman, 2016). Although studies show relationships between stressful family processes in children's preschool years and later conduct problems in adolescence (Haapsalo & Tremblay, 1994; Kilgore, Snyder & Lentz, 2000; Sampson, Raudenbush, and Earls, 1997), early childhood ACEs and child developmental outcomes during the middle childhood and adolescent years have been understudied (Hunt, Berger & Slack 2017; Ray, Choi, & Jackson, 2021).

The foregoing notwithstanding, a recent study of single Black mothers raising young children in circumstances of economic hardship found that the mothers' higher levels of parenting stress were associated with an increased likelihood of their children's exposure to ACEs in early childhood with behavioral consequences in middle childhood and adolescence

(Ray et al., 2021). The researchers posited that this may have been due to the mothers' diminished capacity—in the presence of economic and social disadvantage—to protect their children from the stresses of negative life events (see, also, McLoyd, 1990; Kingsbury, Clayborne, Colman, & Kirkbride, 2020; Crouch, Radcliff, Brown, & Hung, 2019). Others have found links between neighborhood social cohesion, parenting stress and ACEs in early childhood (Wang, Choi and Shin, 2020; McCloskey & Pei, 2019).

Neighborhood social cohesion refers to mutual trusting relationships, common bonds, and feelings of support between neighbors—what Bronfenbrenner (1995) might call proximal processes or mechanisms involving interactions with others—that may provide protection against the stresses of parenting, especially single parenting in economically disadvantaged circumstances (Sampson et al., 1997; McCloskey & Pei, 2019).

The present study tests a model linking single Black mothers' perceptions of neighborhood social cohesion, parenting stress, and ACEs in early childhood to behavior problems in middle childhood and adolescence. Data from a subsample of low-income unmarried Black mothers with a focal child during early to middle childhood and adolescence from the Future of Families and Child Wellbeing Study (FFCWS) were used.

Person-Process-Context Theoretical Model

Bronfenbrenner's person-process-context model details a paradigm that is suitable for assessing the influence of neighborhood social cohesion (context) on family processes as a function of personal characteristics of family members (in the present context, children's age and single mothers' parenting stress) (Bronfenbrenner, 1995). The principal assumptions of this model are that mothers' parenting stress—characterized by a mismatch between perceived parenting demands and available parenting resources (Deater-Deckard, 1998)—diminishes the capacity for more adequate parenting, thereby increasing the likelihood of children's exposure to

ACEs in early childhood (ages 3 to 5); that parenting stress and ACEs in early childhood affect children directly in middle childhood (age 9) and adolescence (age 15); and that mothers' perceptions of neighborhood social cohesion early on—characterized by proximal processes involving interactions with supportive others in the neighborhood—are considered a key mechanism by which child developmental potential might be influenced over time. More specifically, it is hypothesized that neighborhood social cohesion is a proximal mechanism (Bronfenbrenner, 1986) that might have an effect on children's behavioral outcomes in the presence of hassles that economically and socially disadvantaged single Black mothers might experience in their parenting efforts in harsh environmental conditions.

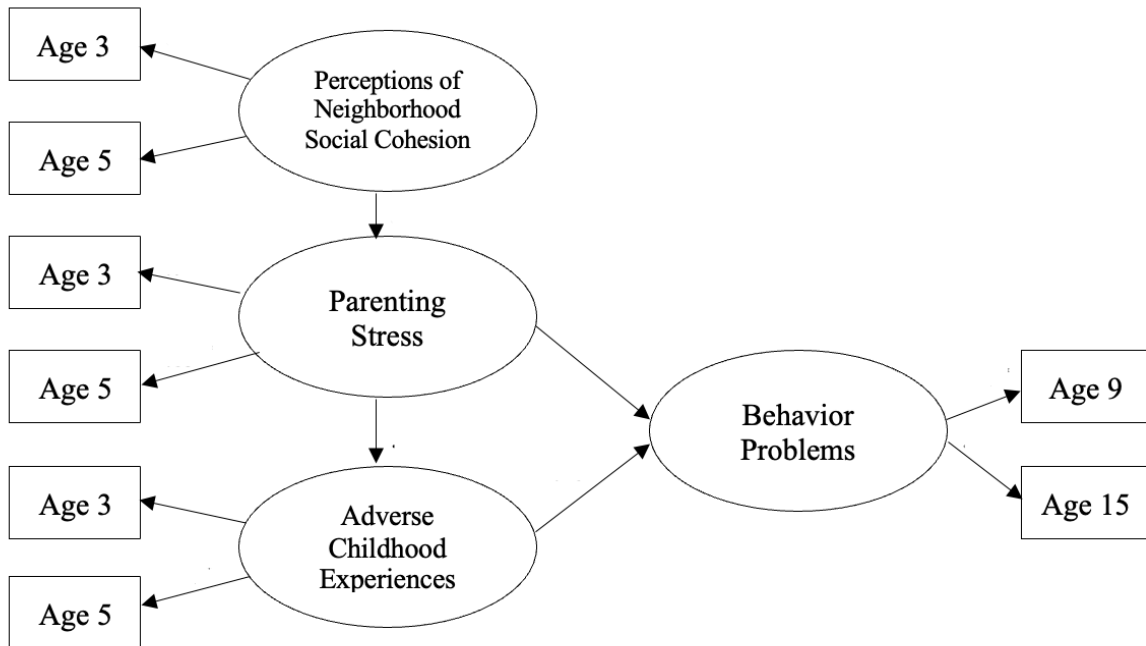
Neighborhood social cohesion has been described as a series of supportive interactions involving resources (and people) that can contribute to more adequate parenting and that might, thereby, influence child outcomes beneficially (Sampson, Morenoff, & Earls, 1999; Sampson et al., 1997; Leventhal & Brooks-Gunn, 2000; Simons, Johnson, Conger, & Lorenz, 1997).

Researchers have found that close social relationships—social interactions between individuals over a period of time; i.e., proximal processes (Bronfenbrenner, 1995)—in neighborhoods with high levels of social cohesion benefit parents by increasing the accessibility of supportive environmental influences in difficult circumstances (see, also, Leventhal & Brooks-Gunn, 2000; Simons et al., 1997). One study found that higher levels of neighborhood social cohesion were related to greater social support, which was related, in turn, to parenting behaviors that included better parent-child communication and monitoring (Byrnes & Miller, 2012). Such behaviors might be associated, in turn, with the children's diminished exposure to ACEs in early childhood. Others have found relationships between and among parenting stress, less adequate parenting, and lower levels of available social support in the presence of daily hassles associated with economic hardship and neighborhood disadvantage (Kohen, Leventhal, Dahinten, & McIntosh,

2008; Leventhal & Brooks-Gunn, 2000; Ostberg & Hagekull, 2000; Sampson et al., 1999; Sampson et al., 1997).

The conceptual model for this study—informed by Bronfenbrenner’s (1995) person-process-context model and the preceding evidence—as depicted in Figure 1 begins with mothers’ perceptions of neighborhood social cohesion and proposes that it will be related directly to parenting stress, which is expected to be related directly to the children’s increased likelihood of exposure to ACEs, due to their single mothers’ diminished capacity to protect them from the stresses of negative life events (Brooks-Gunn, 1990; Deader-Deckard, 1998; McLoyd, 1990). The association between perceived neighborhood social cohesion and parenting stress is well documented (Wang, Choi, Shin, 2020; Byrnes & Miller, 2012; Ostberg & Hagekull, 2000; Kohen et al., 2008), as well as that between parenting stress and ACE exposure in early childhood (Crouch, Radcliff, Hung, 2019; Ray et al., 2021, Wang et al., 2020). Figure 1 also shows direct paths from parenting stress and ACEs to child developmental outcomes over time (into middle childhood and adolescence). These hypothesized relations are consistent with the findings of others who have found that stressful family circumstances have developmental consequences for children across time (Conger et al., 1992, 1993; Haapsalo & Tremblay, 1994; Kilgore, Snyder & Lentz, 2000; Schroeder, Slopen, Mittal, 2018; Zhang & Mersky, 2020; Ray et al., 2021). The adequacy of the model was tested in the analyses that follow.

Figure 1. Conceptual Model



Method

Data

The present study utilized data from the Future of Families and Child Wellbeing Study (FFCWS). The FFCWS is a national longitudinal research study that follows a stratified random sample of mothers, fathers, and children born in 75 hospitals in 20 U.S. cities of 200,000 or more (Reichman, Teitler, Garfinkel, & McLanahan, 2001). Mothers of new babies were sampled from maternity ward lists. Blacks were oversampled and approximately three-quarters of the sampled children were born to unmarried parents who were at greater risk of living in poverty. Baseline interviews with mothers and fathers were conducted shortly after their child's birth between 1998 and 2000. Follow-up interviews were conducted at years 1, 3, 5, 9, and 15, from 1999 to 2014.

Among 4898 households in the longitudinal data set, the present study used a subsample of 800 unmarried Black mothers and their children (421 boys and 379 girls). The sample utilized data from parent surveys and in-home interviewer observations which included four waves of

match-merged data from ages 3 through 15. The FFCWS measures poverty status at each interview by dividing total household income in the prior 12 months by the poverty threshold for the year in which the interview was conducted (Reichman et al., 2001). The sample was limited to families experiencing poverty (family income less than 100% of the federal poverty threshold). Teenage mothers who were 17 years old or younger and single Black mothers who had never lived in poverty at any time point during the first nine years of the child's life were excluded from the subsample (see, also, Ray et al, 2021).

Table 1 shows the following demographic and socioeconomic characteristics of the sampled mothers: about two-thirds of the sampled mothers (66.2%) were 24 years old or younger (on average 23.7 years of age); over a third (34.9%) had a high school diploma or a GED; nearly two-thirds (63.7%) had some college or higher educational attainment. The mothers worked an average of 35.2 hours a week (S.D. = 9.6); over two-thirds of the mothers (67.6%) worked 30 hours or longer per week. More than half of the mothers (55.4%) received public assistance or other government benefits; and the average reported annual income was \$7028.5 (S.D. = 6855.6).

Table 1. Mothers' Demographic and Socioeconomic Characteristics ($n = 800$)

Variables	Frequency	Percent
<u>Mother's Age</u>		
18 – 19	166	20.8
20 – 24	363	45.4
25 – 29	169	21.1
30 – 39	92	11.5
40 – 43	10	1.3
(Mean, SD)	(M = 23.7)	(SD = 5.1)
<u>Mother's Education</u>		
Some high school or less	11	1.4
High school diploma or GED	279	34.9
Some college or 2-year degree	331	41.4
Bachelor's degree	165	20.7
Graduate school or higher	13	1.6
<u>Work Hour</u>		

Unemployed	65	8.1
19 hours or less	80	10.0
20 – 29 hours	114	14.3
30 – 39 hours	489	61.1
40 hours or more	52	6.5
(Mean, SD)	(M = 35.2)	(SD = 9.6)
<u>Welfare Receipt</u>		
Recipient	443	55.4
<u>Child's Gender</u>		
Boy	421	52.7
<u>Annual Income</u>		
\$4,999 or less	345	52.4
\$5,000 – 9,999	154	23.4
\$10,000 – 29,999	113	17.2
\$30,000 or higher	47	7.1
(Mean, SD)	(M = \$7,028.5)	(SD = 6,855.6)

Measures

Neighborhood social cohesion at ages 3 to 5. Neighborhood social cohesion was measured with a 5-item scale (ranging from 1 = *strongly agree* to 5 = *strongly disagree*) adapted from the Social Cohesion and Trust Scale (Sampson et al., 1997). Mothers were asked to indicate the extent to which they agreed or disagreed with the following statements: “people in this neighborhood can be trusted,” “people in this neighborhood generally don’t get along with each other,” “people in this neighborhood do not share the same values,” “people around here are willing to help their neighbors,” and “this is a close-knit neighborhood.” Reliability coefficients for the measure of neighborhood social cohesion were .73 at age 3 and .74 at age 5.

Parenting stress at ages 3 to 5. Parenting stress was measured with a 12-item scale (ranging from 0 = *strongly disagree* to 3 = *strongly agree*) adapted from the Early Head Start Study (Abidin, 1990). Mothers were asked to indicate the extent to which they agreed or disagreed with statements such as the following: “you find yourself giving up more of your life to meet your children’s needs than you ever expected,” “you feel trapped by your responsibilities as a parent,” “since having a child, you have been unable to do new and different things,” “you

are less interested in people than you used to be,” and “since having a child, you feel that you are almost never able to do things that you like to do.” Reliability coefficients were .89 at age 3 and .85 at age 5.

ACEs at ages 3 to 5. ACEs were measured with mothers’ surveys at the child’s ages three and five. Four categories of child maltreatment (i.e., physical abuse, psychological abuse, neglect, and emotional neglect) and four categories of family dysfunction (e.g., mental health issues, substance abuse, incarceration of father, and domestic violence) based on the Center for Disease Control and Prevention Kaiser ACE study (Felitti, et al., 1998) were included. Parental divorce/separation was not included as an ACE because only unmarried mothers and the focal children were the focus of this study.

Behavior problems at ages 9 and 15. The Child Behavior Checklist was used to assess children’s behavior problems (CBCL/6-18; Achenbach & Rescorla, 2001). This scale includes 111 items that comprise the following subscales: aggressive behavior, withdrawn/depressed, anxious/depressed, attention problems, social problems, rule-breaking behavior, somatic complaints, and cognitive problems. Behavior problems are measured on a 3-point scale (ranging from 0 = *not true* to 2 = *often or very true*). Mothers were asked to indicate the frequency or intensity of behavior problems such as the following: “child can’t concentrate or can’t pay attention for long,” “destroys things,” “child argues a lot,” “does not get along with other children,” and “child is disobedient at home/school.” Reliability coefficients for the measure of behavioral problems were .96 at age 9 and .92 at age 15.

Data Analysis

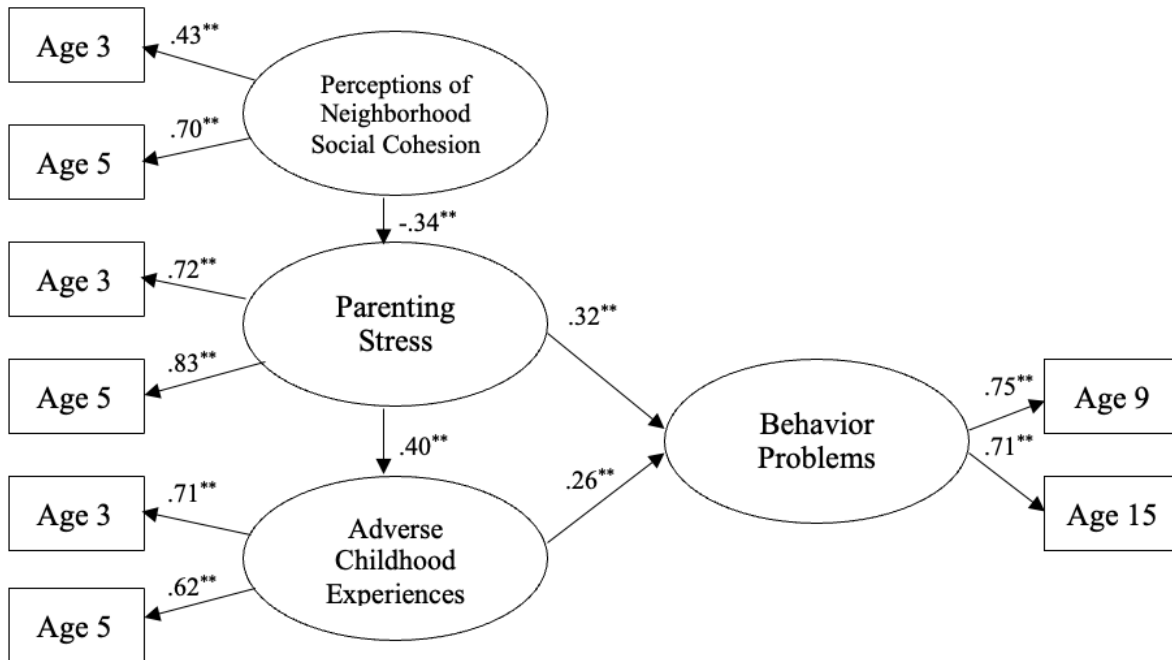
Measurement of the Hypothesized Model

In the hypothesized model, which comprises the structure and measurement representations (see Figure 2), the latent variables are presented in ovals and the measured

variables in rectangles (Ullman, 2012). The model begins with perceptions of neighborhood social cohesion measured at ages 3 and 5 years. The latent variable of perceptions of neighborhood social cohesion shows a path to the parenting stress latent variable which, in turn, shows a path to adverse childhood experiences. The measured variables (ages 3 and 5 years) served as indicators for constructing their respective latent variables of perceptions of neighborhood social cohesion, parenting stress, and adverse childhood experiences. Additional paths are shown regressing behavior problems on parenting stress and adverse childhood experiences. The measured variables (ages 9 and 15 years) served as indicators for constructing the behavior problems latent variable. In sum, this model tested the conceptual model whereby perceptions of neighborhood social cohesion relate to parenting stress, which, in turn, relates to behavior problems in later childhood both directly and indirectly through adverse childhood experiences.

The terms “effects” and “pathways” (or paths)—regarding the contribution of variables in the model under investigation—are used throughout in a statistical sense, without implying a causal priority of one over the other. This approach is consistent with that reported in Dotterer, McHale, & Carter (2009). The analyses that follow present an empirical evaluation of the proposed structural equation model.

Figure 2. Observed Model



Note. Yuan-Bentler $\chi^2 = 13.51$, RCFI = 1.001, Bentler-Bonett NNFI = 1.015, RMSEA = .000 (90% CI .000-.016). ** = $p < .01$; * = $p < .05$

Results

Descriptive Analyses

Means, standard deviations, sample sizes, and Pearson product moment correlations of all measured variables are presented in Table 2. Significant correlations in the hypothesized direction emerged, indicating that it was appropriate to proceed with model estimation based on the conceptual model, $p < .05$. The measured variables at each age served as indicators for their respective latent variables. It should be noted that the primary advantages of using latent variables are that they incorporate unequal weights for items measuring the latent variable, and factor scores are adjusted for measurement error, thereby permitting the testing of interrelations among hypothesized constructs when observed variables are measured with error (Bollen, 2002).

More specifically, descriptive analyses indicated that mothers' perceptions of neighborhood social cohesion early on were associated concurrently with less parenting stress, fewer ACEs and, subsequently, with fewer child behavior problems when the children were 9 and 15 years old. Greater parenting stress was associated concurrently with more ACEs in early childhood and with a greater share of behavior problems, subsequently (in middle childhood and adolescence). The latter also were associated with more ACEs in early childhood. These results portended promise for the credibility of the proposed theoretical model.

Table 2. Descriptive Statistics and Correlations Between Study Variables

	Mean	SD	<i>n</i>	1	2	3	4	5	6	7
Perceptions of Neighborhood Social Cohesion										
1. Age 3	2.23	0.65	635							
2. Age 5	1.81	0.67	763	0.30***						
Parenting Stress										
3. Age 3	1.29	0.69	749	-0.08*	-0.18***					
4. Age 5	1.26	0.71	763	-0.10**	-0.19***	0.59***				
Adverse Childhood Experiences										
5. Age 3	0.86	1.07	800	-0.07	-0.08*	0.23***	0.20***			
6. Age 5	0.92	1.07	800	-0.07	-0.10**	0.16***	0.21***	0.42** _*		
Behavior Problems										
7. Age 9	0.47	0.17	748	-0.11**	-0.14***	0.21***	0.24***	0.17** _*	0.18***	
8. Age 15	0.44	0.27	800	-0.13***	-0.12**	0.21***	0.24***	0.18** _*	0.20***	0.52***

Note. *** = $p < .001$; ** = $p < .01$; * = $p < .05$

Model Estimation

There were no univariate or multivariate outliers, and none of the measured variables were significantly skewed as evaluated through R (R Core Team, 2022) and EQS 6.4 (Bentler, 2018). However, the data did not meet the assumption of multivariate normality as indicated by the Mardia's normalized multivariate kurtosis coefficient value of 6.56, indicating maximum

likelihood estimation with robust fit indices and standard errors would be appropriate (Bentler, 2008). Across all measured variables, a total of 342 of 6,400 datapoints were missing (5.3%) indicating listwise deletion would be appropriate.

Latent variable analyses were performed using EQS 6.4 software (Bentler, 2018). For model identification purposes, the path coefficient from the age 3 or age 9 measured variable to the corresponding latent variable was fixed to 1.0. All other paths depicted in Figure 2 as well as error variances of measured variables were freely estimated. Finally, all paths not shown were fixed to 0, and thus, not estimated.

These analyses compare a proposed hypothetical model with a set of actual data. The closeness of the hypothetical model to the empirical data is evaluated statistically through goodness-of-fit indices and the RMSEA.

As depicted in Figure 2, the model with 16 degrees of freedom produced a Satorra-Bentler χ^2 of 16.12, $p = .44$, an RCFI of 0.999, a Bentler-Bonett NNFI of 0.999, and an RMSEA of 0.004 (90% CI 0.000 to 0.038), all indicating close fit to the data. All measured variables loaded significantly on their respective latent variables, $p < .05$. Furthermore, the model R^2 of .232 indicates that approximately 23% of the variability in behavior problems can be accounted for by parenting stress and adverse childhood experiences. Table 3 contains the decomposition of the standardized direct, indirect, and total effects. Perceptions of neighborhood social cohesion are significantly and negatively related to parenting stress ($\beta = -.34, p < .05$) indicating that increases in perceptions of neighborhood social cohesion were associated with reduced parenting stress. Parenting stress was significantly and positively related to adverse childhood experiences ($\beta = .40, p < .05$) and behavior problems ($\beta = .32, p < .05$), indicating that increases in parenting stress were related to more adverse childhood experiences early on and more behavior problems subsequently in middle childhood and adolescence. Adverse childhood

experiences were significantly related, in turn, to increased behavior problems ($\beta = .26, p < .05$). Additionally, behavior problems were influenced indirectly by neighborhood social cohesion ($\beta = -.14, p < .05$) and parenting stress ($\beta = .10, p < .05$) through adverse childhood experiences.

Table 3. Decomposition of direct and indirect effects

Outcome	Predictor	Direct Effect	Indirect Effect	Total Effects
Behavior Problems	Perceptions of neighborhood social cohesion	—	-.14**	.14**
	Parenting stress	.32**	.10**	.42**
	Adverse childhood experiences	.26**	—	.26**
Adverse childhood experiences	Perceptions of neighborhood social cohesion	—	-.13**	-.13**
	Parenting stress	.40**	—	.40**
Parenting stress	Perceptions of neighborhood social cohesion	-.34**	—	-.34**

Note. Dashes indicate no effect.
* $p < .05$. ** $p < .01$.

Discussion

These results are consonant with the theoretical expectations, informed by Bronfenbrenner's (1995) person-process-context model. It was hypothesized that mothers' perceptions of neighborhood social cohesion (context), characterized by proximal processes involving mutual trusting relationships, interactions, and common bonds between neighbors (Sampson, et al., 1997), would be associated with less parenting stress, defined as a mismatch between perceived parenting demands and parenting resources (Deater-Deckard, 1998). It was

hypothesized further that parenting stress would be associated with diminished parenting adequacy and an increased likelihood of the children's exposure to adverse childhood experiences in early childhood with consequences for behavior/conduct problems in middle childhood and adolescence (Ray et al., 2021; Haapsalo & Tremblay, 1994; Kilgore, Snyder & Lentz, 2000).

Consistent with the previously stated expectations, mothers' perception of neighborhood social cohesion was negatively associated with parenting stress; mother's parenting stress was positively associated with children's increased likelihood of exposure to ACEs in early childhood (ages 3 to 5); and both parenting stress and ACEs early on were positively related to child behavior problems in middle childhood and adolescence (ages 9 and 15). Although these data, while longitudinal, do not match an experiment in terms of causal inferences (see, for example, Jackson, Choi, Preston, 2019), the findings highlight the important role that neighborhood social cohesion can play in reducing the consequences of adversity for poor single Black mothers and their young children in the context of neighborhood disadvantage. Intervention approaches that aim to develop and build trusting relationships and supportive bonds among neighbors might be appropriate aims in some neighborhoods. For example, healthcare providers or professionals working in mental health and medical clinics might consider services that build neighborhood social networks (McKloskey & Pei, 2019). Policymakers might advocate for programs that encourage and foster supportive interactions among community members, and that promote community interests that contribute to community resilience (Ellis and Dietz, 2017). Community organizers might bring together community groups through coordination of public and private agencies to address specific concerns relevant to the health and well-being of parents and young children with the expressed aim of developing neighborhood social cohesion. Developing and testing, systematically, such interventions are matters for future research.

Nevertheless, several limitations suggest caution in interpreting the results. First, the Future of Families and Child Wellbeing Study data consist of children and families from urban cities with populations of 200 000 or more and therefore cannot be generalized to rural and more non-urban populations. Second, given that about 23% of the variability in behavior problems in the study can be accounted for by parenting stress and adverse childhood experiences, the behavior problems results might be subject to confounding variables due to the large time gaps between the latent variables (ages 3 and 5) and the measured outcomes (ages 9 and 15). Also, this study relied on mothers' perceptions with regard to neighborhood characteristics which might not match or equal an objective measure of social cohesion and might not accurately represent actual neighborhood conditions and resources. It is acknowledged, in addition, that objective reports of the constructs would have removed the potential for shared error variance. Finally, this study relied as well on mothers' reports of the children's behavior. Although parents' reports of children's behavior have been found to correlate positively with teachers' reports (Conrad & Hammen, 1989; Richters & Pellegrini, 1989), it is acknowledged that such reports no doubt include an element of perception that is not entirely accounted for by actual behavior (Spiker, Kraemer, Constantine, & Bryant, 1992).

Despite these limitations, this study adds to the literature in several ways. It is worthy of note that the empirical authenticity of the processes tested here was not rejected by the current findings. Importantly, as already indicated, these results replicate other research, not only on relationships between stressful family processes in children's preschool years and later conduct problems in adolescence (Deater-Deckard & Scarr, 1996; Haapsalo & Tremblay, 1994; Kilgore et al., 2000), but also on adverse childhood experiences in early childhood and child developmental outcomes during the middle childhood and adolescent years. As stated earlier, there is a gap in the understanding of adverse childhood experiences in early childhood and child developmental

outcomes in middle childhood and adolescence (Hunt et al. 2017; Ray et al., 2021). This study also used nationally representative data. As such, the results highlight the potential for interventions that enhance neighborhood social cohesion and provide additional avenues for neighbors to connect with each other which may, in turn, be a critical opportunity for strengthening poor Black children's development and well-being.

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Chapter 4

Nonresident Fathers' Social Support Networks, Co-parenting, Adverse Childhood Experiences in Early Childhood and Child Behavior Problems Over Time among Poor Black Youth

Abstract

Background: This study examined the roles of nonresident fathers' social support networks, the father-mother co-parenting relationship, and adverse childhood experiences (ACEs) in early childhood on child behavioral outcomes in middle childhood and adolescence among low-income Black families.

Objective: To test a model linking nonresident fathers' social support networks, father-mother co-parenting relationships, and ACEs in early childhood to behavior problems in middle childhood and adolescence.

Participants and Setting: This study used four waves of longitudinal data from a subsample of 800 unmarried Black mothers and their children (at ages 3, 5, 9, and 15) from the Future of Families and Child Wellbeing Study, a nationally representative data set.

Method: Latent variable structural equation modeling was used to test a conceptual model with direct and indirect effects.

Results: Nonresident fathers' social support networks were significantly and positively associated with the father-mother co-parenting relationship ($\beta = .17, p < .05$); the father-mother co-parenting relationship was significantly and negatively related to adverse childhood experiences ($\beta = -.47, p < .05$) and negatively related to behavior problems ($\beta = -0.6, p < .05$); Adverse childhood experiences were significantly and positively related to behavior problems ($\beta = .36, p < .05$).

Conclusion: Nonresident Black fathers' social support networks may play a significant role in the father-mother co-parenting relationship and may buffer the adverse consequences over time for economically and socially disadvantaged Black children of exposure to ACEs in early childhood. Interventions that encourage supportive and sustained involvement by nonresident Black fathers with young children and their single mothers are discussed.

Key words: nonresident fathers' social support, adverse childhood experiences, co-parenting

Introduction

In the United States, over half of Black children and youth (approximately 60%) are being raised in households headed by a single mother (Carlson, McLanahan, & Brooks-Gunn, 2008). These families have extraordinarily high rates of poverty (Hamilton, Martin, & Ventura, 2011; Jones & Mosher, 2013) and studies show that poverty diminishes the quality of parenting among single mothers with limited access to financial and social support (McLoyd, 1990; Luthar & Ciciolla, 2015). Poor Black children also are twice as likely as all other children to grow up in households without the involvement of a biological father (Cheadle, Amato, & King, 2010; Livingston & Parker, 2011) and children raised in households without the involvement of both biological parents are at greater risk for less optimal developmental outcomes than their counterparts who grow up in households in which both parents are involved (Carlson & Corcoran, 2001; Cheadle et al., 2010). In short, fathers' involvement with their children is important (Rollè, Gullotta, Trombetta, Curti, Gerino, Brustia & Caldarera, 2019; Lamb, 2004; Tamis-LeMonda & Cabrera, 2002). Yet there are gaps in our understanding of nonresident fathers' involvement with children in economically and socially disadvantaged Black families headed by single mothers, with a few recent exceptions (Ray, Choi, Jackson, 2021; Sumo, Julion, Henry, & Bounds, 2022).

This is important because adverse childhood experiences (ACEs) in early childhood are more likely to occur in single-parent Black families headed by poor women. (Lamb, 2004; Tamis-LeMonda & Cabrera, 2002; Child Trends, 2013). ACEs—broadly defined as child maltreatment and family dysfunction—can have negative effects on the well-being and development of children over time (Child Trends, 2019; Choi, Wang, & Jackson, 2019; Felitti, Anda, Nordenberg, Williamson, Spitz, Edwards, Koss, & Marks, 1998; Flaherty, Thompson, & Dubowitz, 2013). Studies indicate that children raised in homes where a parent—often a single

mother—reports high parenting stress are more likely than their peers to experience four or more ACEs in early childhood (Crouch, Radcliff, Brown & Hung, 2019). There also is evidence that nonresident father involvement may buffer the adverse consequences for poor Black children of exposure to ACEs in early childhood (Ray et al., 2021) and that fathers' involvement in families headed by poor single mothers is important not only for the well-being of the children (Cabrera, Fitzgerald, Bradley & Roggman, 2007; Lamb, 2004; Tamis-LeMonda & Cabrera, 2002) but also for that of the mothers (Jackson, Choi, Preston, 2015; Kainz, Eliasson & Von Post, 2010; Waldfogel, Craigie, & Brooks-Gunn, 2010). Yet, as stated earlier, nonresident fathers' involvement with single mothers and their young children in economically and socially disadvantaged Black families remains understudied.

The present study addresses this deficit in the literature by testing a model linking the contextual influences of nonresident fathers' social support networks, the father-mother co-parenting relationship, and ACEs in early childhood (ages 3 to 5) to poor Black children's behavior problems in middle childhood (age 9) and adolescence (age 15). Data from a subsample of low-income unmarried Black mothers with a focal child during early to middle childhood and adolescence from the Future of Families and Child Wellbeing Study (FFCWS) were used.

Nonresident Fathers' Social Support, Co-parenting, ACEs, and Children's Behavior

Bronfenbrenner's (1995) person-process-context model proposes a paradigm for assessing the impact of contextual factors on child developmental outcomes over time. The principal assumptions of the present study are that nonresident fathers' social support networks—comprised of positive relations with family and friends—have primarily indirect associations with child outcomes (behavior problems) transmitted through the father-mother co-parenting relationship and ACEs in early childhood. According to this model, the proximal

processes occurring between parents and between parents and children are considered key mechanisms by which child functioning and development are realized (Eamon, 2001).

The conceptual model, informed by this perspective, is depicted in Figure 1. It begins with nonresident fathers' social support networks in the focal child's preschool years (ages 3 to 5) and proposes that they will be related directly to the father-mother co-parenting relationship. Research shows that social support buffers the negative effects of poverty on parent and child outcomes (Bunting & McAuley, 2004; Miller, 1997; Castillo & Sarver, 2012). Although the relationship between nonresident fathers' social support networks and their involvement with their children has received less attention in the empirical literature than mothers' networks of support (Kotch, Browne, Dufort, Windsor, & Catellier, 1999), some have explored this relationship and have found that nonresident fathers' higher levels of social support are associated with greater involvement with their children and their children's mothers (Castillo & Sarver, 2012; Gaertner, Spinrad, Eisenberg, & Greving, 2007). For example, one study revealed that nonresident fathers' engagement in caregiving and nurturing activities with their children early on was positively associated with support from their family and friends and the quality of the relationship with their child's mother (Castillo & Fenzl-Crossman, 2010). Others also have found that family and friends are sources of emotional and instrumental support that might help nonresident fathers fulfill their parenting role (see, for example, Cohen & Wills, 1985; DeGarmo, Patras & Eap, 2008). Based on this evidence, it is expected that fathers with more supportive relationships in their social networks would be more likely to stay involved with their child and to have a better co-parenting relationship with their child's mother over the preschool years (ages 3 to 5).

Figure 1. Conceptual Model

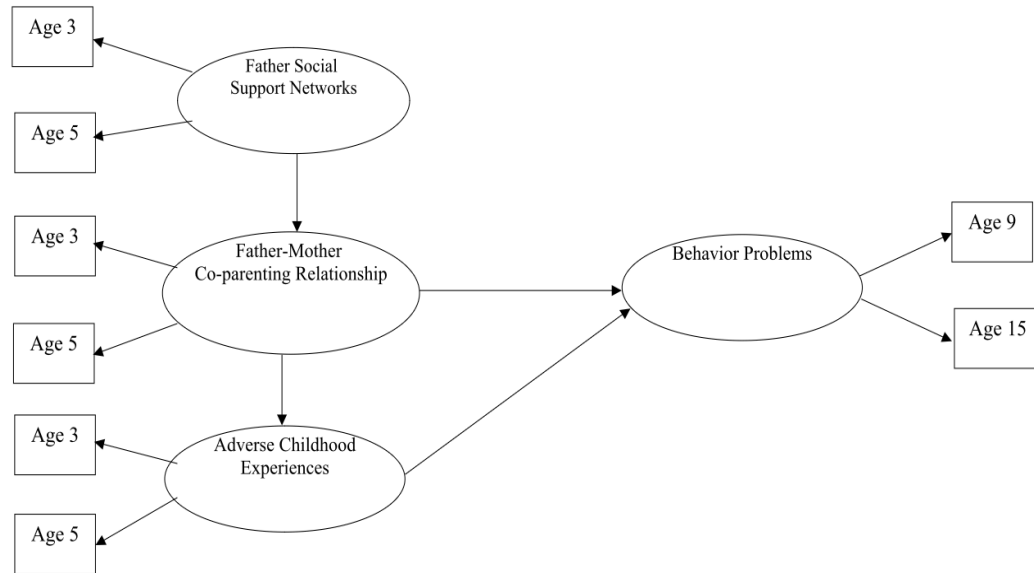


Figure 1 also shows a direct path from the father-mother co-parenting relationship to ACEs in the preschool years (ages 3 to 5). This path hypothesizes that the level and quality of the nonresident father-mother co-parenting relationship will be related directly to fewer ACEs in the focal children’s early childhood. This expectation is supported by evidence reported above (Ray et al., 2021) and also by that linking fathers’ involvement with their children to beneficial outcomes for low-income single mothers and their children (Jackson, Preston, & Thomas, 2013; Jackson, et al., 2015; Adamsons and Johnson, 2013). Studies have consistently documented the relationship between poverty, parenting stress, and diminished parenting quality among single mothers with limited access to social and financial support (Luther & Ciciolla, 2015; McLoyd, 1990). Some have found that fathers’ ability to share parenting responsibilities is associated with reduced stress for mothers (Milkie & Denny, 2014). Recent research suggests as well that nonresident fathers’ availability and involvement with single mothers and their young children serve “protective” functions with respect to children’s exposure to ACEs in early childhood (Ray

et al, 2021) and lessens the detrimental impacts of the stressors faced by poor single mothers (Sumo et al., 2022; Cairney, Boyle, Offord & Racine, 2003; Jackson, Brooks-Gunn, Huang & Glassman, 2000; Jackson et al., 2010). Based on this evidence, it is expected that cooperative co-parenting would be related to a reduction in the focal children's exposure to ACEs, and fewer ACEs to be related to fewer behavior problems over time. The latter is supported by the work of Ray and her colleagues (2021).

The relationship between co-parenting and child behaviors has also been well documented in the literature (Lamb, 2004; Tamis-LeMonda & Cabrera, 2002; Coates & Phares, 2019). Therefore, Figure 1 shows a direct path between the father-mother co-parenting relationship and child behavior problems suggesting that better co-parenting relationships early on (ages 3 to 5) would be related to reduced child behavior problems in middle childhood and adolescence (ages 9 and 15). In sum, these hypothesized relations, including those between the father-mother relationship, ACEs, and the child outcomes, are consistent with the work of others who have found that stressful family environmental circumstances have developmental consequences for children across time (Conger, Conger, Elder, Lorenz, Simons, & Whitbeck, 1992; Conger, Conger, Elder, Lorenz, Simons & Whitbeck, 1993).

Method

Study Sample

The Future of Families and Child Wellbeing Study (FFCWS) study is a national longitudinal study designed to examine the consequences of non-marital childbearing in low-income families. The study follows a stratified random sample of mothers, fathers, and children born in 75 hospitals in 20 U.S. cities of 200,000 or more (Reichman, Teitler, Garfinkel, & McLanahan, 2001). Mothers of new babies were sampled from maternity ward lists. Blacks were oversampled and biological fathers were recruited at the hospital at the time of the child's

birth. Approximately three-quarters of the sampled children were born to unmarried parents who were at greater risk of living in poverty. Baseline interviews with mothers and fathers were conducted shortly after their child's birth between 1998 and 2000 and follow-up interviews were conducted at years 1, 3, 5, 9, and 15, from 1999 to 2014.

The data used in this study were taken from four waves of the FFCWS study. Among 4,898 households in the dataset, this study used a subsample of 800 unmarried Black mothers, their children (421 boys and 379 girls), and the children's nonresident fathers. This study used match-merged data from parent surveys and in-home interviewer observations from age three through adolescence (ages 3, 5, 9, and 15). The study sample was limited to families experiencing poverty, defined as family income less than 100 percent of the federal poverty threshold. Single Black mothers who had never lived in poverty at any time point during the first nine years of the child's life and teenage mothers who were 17 years old or younger were excluded from the subsample.

The demographic and socioeconomic characteristics of the sampled mothers and nonresident fathers are shown in Table 1 and Table 2. Approximately two-thirds of the sampled mothers (66.2%) were 24 years old or younger (on average 23.7 years of age); over a third (34.9%) had a high school diploma or a GED; nearly two-thirds (63.7%) had some college or higher educational attainment. The mothers worked an average of 35.2 hours a week (S.D. = 9.6); over two-thirds of the mothers (67.6%) worked 30 hours or longer per week; over half of the mothers (55.4%) received public assistance or other government benefits; and the average reported annual income was \$7028.5 (S.D. = 6855.6). Approximately half of the sampled fathers (51%) were 24 years old or younger (on average 25.8 years of age); a little less than half (46.2%) had a high school diploma or a GED; and 17.7% had some college or higher educational attainment. The fathers worked an average of 40.8 hours a week (S.D. = 11.5); almost three-

quarters of the fathers (71.7%) worked 30 hours or longer per week; 8% received public assistance or other government benefits; and the average reported annual income was \$27450 (S.D. = 27822).

Table 1. Mothers' Demographic and Socioeconomic Characteristics ($n = 800$)

Variables	Frequency	Percent
<u>Mother's Age</u>		
18 – 19	166	20.8
20 – 24	363	45.4
25 – 29	169	21.1
30 – 39	92	11.5
40 – 43	10	1.3
(Mean, SD)	(M = 23.7)	(SD = 5.1)
<u>Mother's Education</u>		
Some high school or less	11	1.4
High school diploma or GED	279	34.9
Some college or 2-year degree	331	41.4
Bachelor's degree	165	20.7
Graduate school or higher	13	1.6
<u>Work Hour</u>		
Unemployed	65	8.1
19 hours or less	80	10.0
20 – 29 hours	114	14.3
30 – 39 hours	489	61.1
40 hours or more	52	6.5
(Mean, SD)	(M = 35.2)	(SD = 9.6)
<u>Welfare Receipt</u>		
Recipient	443	55.4
<u>Child's Gender</u>		
Boy	421	52.7
<u>Annual Income</u>		
\$4,999 or less	345	52.4
\$5,000 – 9,999	154	23.4
\$10,000 – 29,999	113	17.2
\$30,000 or higher	47	7.1
(Mean, SD)	(M = \$7,028.5)	(SD = 6,855.6)

Table 2. Fathers' Demographic and Socioeconomic Characteristics ($n = 800$)

Variables	Frequency	Percent
<u>Father's Age</u>		
18 – 19	73	12.4
20 – 24	227	38.6
25 – 29	144	24.5
30 – 39	106	18.0
40 – 43	18	3.1
(Mean, SD)	(M = 25.8)	(SD = 6.6)
<u>Father's Education</u>		
Some high school or less	283	37.0
High school diploma or GED	353	46.2
Some college or 2-year degree	118	15.4
Bachelor's degree	10	1.3
Graduate school or higher	0	0
<u>Work Hour</u>		
Unemployed	134	23.4
19 hours or less	7	1.2
20 – 29 hours	21	3.7
30 – 39 hours	69	12.1
40 hours or more	341	59.6
(Mean, SD)	(M = 40.8)	(SD = 11.5)
<u>Welfare Receipt</u>		
Recipient	64	8.0
<u>Child's Gender</u>		
Boy	421	52.7
<u>Annual Income (Household)</u>		
\$4,999 or less	87	14.8
\$5,000 – 9,999	66	11.2
\$10,000 – 29,999	211	35.9
\$30,000 or higher	224	38.1
(Mean, SD)	(M = \$ 27,450)	(SD = 27,822)

Measures

Nonresident fathers' social support ages 3 to 5. Nonresident fathers' social support was measured using a two-item scale (ranging from 0 = *no* to 1 = *yes*) that assessed nonresident fathers' perception of social support from family and/or friends (see, for example, Castillo &

Sarver, 2012). Nonresident fathers were asked if they could: count on someone to loan them \$200 in the next year; count on someone to provide them with a place to live in the next year;

Father-mother co-parenting relationship at ages 3 to 5. Nonresident fathers' co-parenting relationship with their child's mother was measured using a one-item scale (ranging from 1= *excellent* to 5= *poor*) in which fathers were asked the following: "In general, would you say that your relationship with your child's mother is...?" These response categories were recoded and higher numbers were assigned to the more positive relationship categories, 0 = *Poor*, 1 = *Fair*, 2 = *Good*, 3 = *Very Good*, and 4 = *Excellent*.

ACEs at ages 3 to 5. ACEs were measured with mothers' surveys at the child's ages three and five. Based on the Center for Disease Control and Prevention Kaiser ACE study (Felitti, et al., 1998), four categories of child maltreatment (i.e., physical abuse, psychological abuse, physical neglect, and emotional neglect) and four categories of family dysfunction (e.g., mental health issues, substance abuse, incarceration of father, and domestic violence) were included. Parental divorce/separation was not included as an ACE because only unmarried mothers and the focal children were the focus of this study.

Behavior problems at ages 9 and 15. The Child Behavior Checklist was used to assess children's behavior problems (CBCL/6-18; Achenbach & Rescorla, 2001). This scale consists of 111 items that comprise the following subscales: aggressive behavior, withdrawn/depressed, anxious/depressed, attention problems, social problems, rule-breaking behavior, somatic complaints, and cognitive problems. Behavior problems were measured on a 3-point scale (ranging from 0 = *not true* to 2 = *often or very true*). Mothers were asked to indicate the frequency or intensity of behavior problems such as the following: "child can't concentrate or can't pay attention for long," "destroys things," "child argues a lot," "does not get along with

other children,” and “child is disobedient at home/school.” Reliability coefficients for the measure of behavioral problems were 0.96 at age 9 and 0.92 at age 15.

Data Analysis

Measurement of the Hypothesized Conceptual Model

In the proposed conceptual model, which comprises the structure and measurement representations (see Figure 1), the latent variables are presented in ovals and the measured variables in rectangles (Ullman, 2012). The model begins with nonresident fathers’ social support networks measured at ages 3 and 5 that comprise a common latent variable. The latent variable of nonresident fathers’ social support networks then shows paths to the latent variable of the father-mother co-parenting relationship (indicators measured at ages 3 and 5), which, in turn, is related to adverse childhood experiences (indicators measured at ages 3 and 5), and subsequent behavior problems (indicators measured at ages 9 and 15). The adverse childhood experiences latent variable is also hypothesized to relate directly to behavior problems over time.

The terms effects and pathways (or paths) are used throughout in a statistical sense regarding the contribution of variables in the model under investigation without implying a causal priority of one over the other. This approach is consistent with that reported with Dotterer et al., (2009). The analyses that follow present an empirical evaluation of the proposed conceptual model.

Results

Descriptive Analyses

Means, standard deviations, sample sizes, and Pearson product moment correlations of all measured variables are presented in Table 3. Significant correlations in the hypothesized direction emerged, indicating that it was appropriate to proceed with model estimation based on the conceptual model, $p < .05$. The measured variables served as indicators of their respective

latent variables. It should be noted that there are several primary advantages of latent variables: They incorporate unequal weights for the items measuring them, which allows for differences in the metrics of the observed variables, and factor scores are adjusted for measurement error, thereby permitting the testing of interrelations among hypothesized constructs when observed variables are measured with error (Bollen, 1989, 2002).

Table 3. Descriptive Statistics and Correlations for Study Variables

	<i>M</i>	<i>SD</i>	<i>N</i>	1	2	3	4	5	6	7	8
Fathers' social support networks											
1. Age 3	4.03	1.72	530	1.00							
2. Age 5	4.00	1.88	524	0.51**	1.00						
Father-mother co-parenting relationships											
3. Age 3	2.39	0.70	642	0.08	0.10*	1.00					
4. Age 5	2.28	0.75	602	0.05	0.06	0.49**	1.00				
Adverse childhood experiences											
5. Age 3	0.88	1.08	800	-0.08	-0.12**	-0.27**	-0.22**	1.00			
6. Age 5	0.95	1.07	800	-0.05	-0.08	-0.17**	-0.19**	0.42**	1.00		
Behavior problems											
7. Age 9	0.46	0.17	748	-0.01	0.01	-0.10*	-0.12**	0.17**	0.18**	1.00	
8. Age 15	0.44	0.25	800	0.01	-0.05	-0.11**	-0.13**	0.18**	0.20**	0.52**	1.00

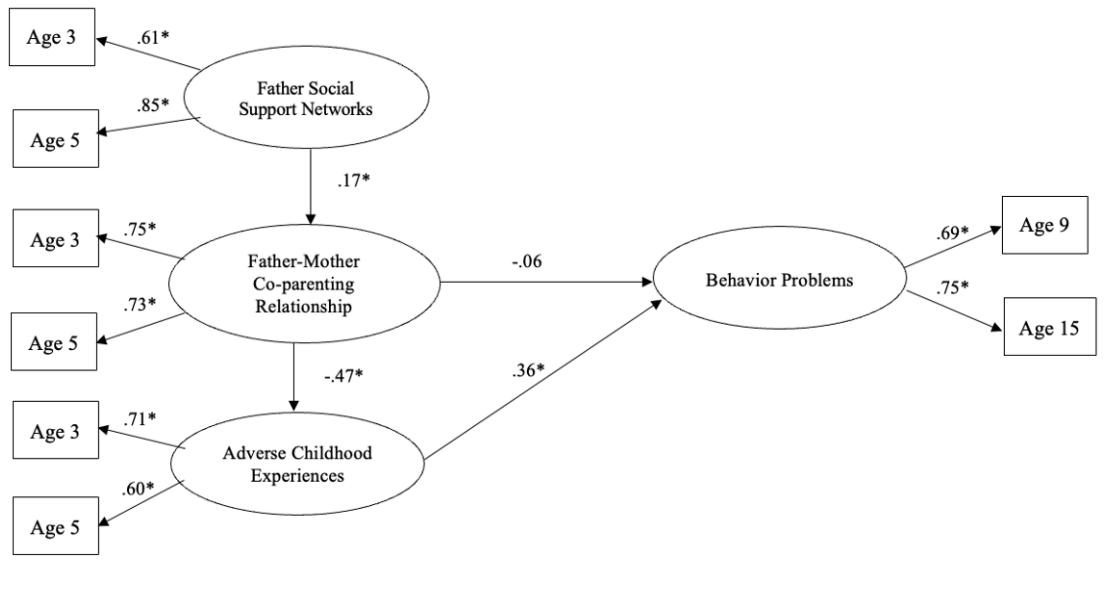
* $p < .05$. ** $p < .01$.

Model Estimation

The assumptions of normality, multicollinearity, linearity, and homoscedasticity were evaluated through R (R Core Team, 2022) and EQS 6.4 (Multivariate Software, 2018). There were no univariate or multivariate outliers. However, the data did not meet the assumption of multivariate normality as indicated by the Yuan et al.'s (2004) normalized coefficient of kurtosis of 11.79, indicating maximum likelihood estimation with robust fit indices and standard errors would be appropriate (Bentler, 2008). As expected in longitudinal research, a total of 954 of 6400 (14.9%) data points were missing. Little's missing completely at random test (Little, 1988) was applied to all study variables using the *nanian* package (Tierney, Cook, McBain & Fay, 2021) in R (R Core Team, 2022). It was determined that the data were not missing completely at random, $\chi^2(159) = 230, p < .001$, indicating that full information maximum likelihood

imputation using observed standard errors would be appropriate. Latent variable analyses were performed using EQS 6.4 software (Multivariate Software, 2018). All paths depicted in Figure 2 as well as error variances of measured variables were freely estimated. Finally, all paths not shown were fixed to 0, and thus, not estimated.

Figure 2. Observed Model (N = 800)



Note. Yuan-Bentler $\chi^2 = 13.51$, RCFI = 1.001, Bentler-Bonett NNFI = 1.15, RMSEA = .000 (90% CI .000-.016). * $p < .05$.

These analyses compared the proposed conceptual model with the set of actual data. The closeness of the hypothetical model to the empirical data was evaluated statistically through goodness-of-fit indexes and the RMSEA. Additionally, Yuan-Bentler robust fit statistics [the Yuan-Bentler chi-square, the Robust Comparative Fit Index (RCFI), and the Bentler-Bonett non-normed fit index (NNFI)] were interpreted to accommodate sample size (Bentler, 2008).

As depicted in Figure 2, the model with 16 degrees of freedom produced a Yuan-Bentler χ^2 of 13.51, and RCFI of 1.001, a Bentler-Bonett NNFI of 1.015, and an RMSEA of .000 (90%

CI .000-.016), all indicating adequate fit to the data. Furthermore, the model R^2 of .15 indicated the model explained approximately 15% of the variability in behavior problems.

Figure 2 provides the standardized parameter estimates, representing beta-weights (one-way arrows), with all measured variables loaded positively and significantly on their respective latent variables, $p < .05$. The path between fathers' social support networks and the father-mother co-parenting relationship (beta = .17) is consistent with the expected effect, indicating that fathers' positive perception of their social support networks is associated with a better and more positive father-mother co-parenting relationship, which in turn exhibits the expected negative relationship with adverse childhood experiences (beta = -.47). Figure 2 shows, moreover, that adverse childhood experiences have the expected positive relationship to behavior problems (beta = .36) at ages 9 (beta = .69) and 15 (beta = .75). Furthermore, as shown in Table 3, fathers' increased social support networks are related indirectly to fewer adverse childhood experiences in the children's early childhood (beta = -.08) and fewer behavior problems in middle childhood and adolescence (beta = -.04). It should be noted that the father-mother co-parenting relationship is not related directly to fewer behavior problems, as was expected. However, it is significantly and indirectly related to behavior problems through adverse childhood experiences (beta = -.17). Table 4 shows that because the indirect effect is quite strong, there is a significant total effect (beta = -.23). These results suggest that increases in fathers' social support networks together with stronger father-mother co-parenting relations might lead to fewer ACEs early on and children's fewer behavior problems over time.

Table 4. Decomposition of Standardized Direct and Indirect Effects

Predictor	Dependent Variable	Direct Effect	Indirect Effect	Total Effects
Father Social Support Networks	Father-Mother Co-parenting Relationship	0.17*	—	.17*
	Adverse Childhood Experiences	—	-0.08*	-0.08*
	Behavior Problems	—	-0.04*	-0.04*
Father-Mother Co-parenting Relationship	Adverse Childhood Experiences	-0.47**	—	-0.47**
	Behavior Problems	-0.06	-0.17**	-0.23**
Adverse Childhood Experiences	Behavior Problems	0.36**	—	0.36**

Note. Dashes indicate no effect.
+ $p < .10$. * $p < .05$. ** $p < .01$.

Discussion

Consonant with Bronfenbrenner's (1995) person-process-context model, it was hypothesized at the outset that nonresident fathers with better supportive networks in their larger social environment would be better at co-parenting with the mothers of the focal children early on. It was expected further that the favorable father-mother co-parenting relationship would be associated, in turn, with fewer adverse childhood experiences in the children's early childhood, and together these contextual processes (see, for example, Bronfenbrenner, 1995) were expected to predict fewer behavior problems longitudinally, in the children's middle childhood and adolescence. The expectations of this study were realized, with one exception. More explicitly, the results show significant, expected, and direct paths from fathers' social support networks in

the larger environment to their co-parenting relationships with their children's single mothers to adverse childhood experiences, all in early childhood, to behavior problems over time. The exception is the nonsignificant direct path from the co-parenting relationship to behavior problems. This relationship was expected to be direct. However, as Table 4 shows, that relationship is indirectly transmitted through adverse childhood experiences in early childhood and the association between the latter and behavior problems subsequently.

The results are consistent with the findings of others who have found that biological Black fathers are important in the lives of young children, even when they do not reside in the same household (see, for example, Jackson et al., 2015). This is important because research—based largely on middle-class white samples—shows that children growing up in households without the involvement of both biological parents are at greater risk for negative outcomes than those growing up in households with the involvement of both biological parents (see, for example, Amato, 2005; Carlson & Cocoran, 2001; Cheadle, Amato, & King, 2010). However, it should be acknowledged that some (Furstenberg, 1995; King & Cherlin, 2002; Mott, 1990) but not all (Jackson et al., 2015) have posited that the salutary effects of being raised from early on by two biological parents that seem to apply to children in middle-class white families may not apply to children in single-parent Black families. Also, studies have found that nonresident Black fathers' involvement with their children is determined "primarily" by the quality of their relationship, mostly romantic, with the mother (McLoyd, 1990; Tach, Mincy & Edin, 2010; Cabrera et al., 2008; Ryan, Kalil, & Ziol-Guest, 2008; Coley & Chase-Lansdale, 1999; Kana'iaupuni, Donato, Thompson-Colon, & Stainback, 2005). Furthermore, some have found that while unmarried Black parents are typically optimistic about their future together early in their relationship, most are no longer romantically involved by the time the child is 5 years old

(Carlson, McLanahan, England & Devaney, 2005; Jackson, Choi & Preston, 2019). This might be consequential insofar as continued father-mother co-parenting over time is concerned.

The foregoing circumstances taken together informed the rationale for this study. This study sought to determine other predictors (beyond the mother-father romantic relationship) of continued involvement and co-parenting by nonresident Black fathers with their young children's mothers. The finding that the fathers' social support networks in the larger social environment may be important in this regard, if valid, replicates other research on social support networks and co-parenting by fathers. For example, Castillo and Sarver (2012) also found that nonresident fathers' perceptions of the availability of instrumental social support was associated with a better relationship with their child's mother and contributed positively to their involvement with their children. In addition, the finding that the father-mother co-parenting relationship is strongly negatively associated with fewer adverse childhood experiences in early childhood suggests that nonresident Black fathers' sustained involvement may buffer the harmful consequences of stressful conditions for single mothers' parenting efforts in economically disadvantaged circumstances (see, also, Hashima & Amato, 1994). As such, the results offer new insight for future studies that might explore more fully these and other pathways through which elements of social support may benefit Black nonresident fathers in their parenting efforts (see, also Ray et al., 2021; Castillo & Sarver, 2012).

Possibly the most important scientific and policy implications of the results are that intervention efforts with poor and single-parent Black families might focus on social environmental circumstances that accompany economic hardship. For example, intervention approaches might focus on honing relationship and co-parenting skills between unmarried nonresident, Black, biological fathers and the mothers of their children early on when the couple may still be involved in a romantic relationship and in so doing engage the fathers in efforts to be

involved with supportive others in their larger social environments, while they are motivated. Most programs that focus on single-parent families do not include nonresident fathers in the services delivered to these families (McLanahan & Beck, 2010). Outreach services that connect these men to supportive networks when the single mothers of their children are offered help should be attempted and the outcomes of such efforts should be studied. Agencies, schools, hospital clinics, and churches could be encouraged to reach out to young, nonresident fathers who often have few supportive resources in the community.

Nevertheless, several limitations suggest caution in interpreting the results of this study. First, there may be other variables not considered here that may explain the findings. It is acknowledged as well that other elements of nonresident fathers' social support networks that might influence their involvement in co-parenting were not entirely accounted for in this study, such as their perceptions of the psychological aspects of the support they received. Indeed, some have found relations among fathers' received social support, enhanced psychological well-being, and increased involvement with their children (Castillo & Sarver, 2012). A second limitation involves the measure of the father-mother co-parenting relationship. This study relied on fathers' reports about the co-parenting relationship and it is possible that other factors may be better indicators of fathers' relationships with their children's mothers. Some studies also show that mothers and fathers sometimes differ in their accounts of and attitudes about fathers' involvement and co-parenting (Sumo et al., 2022; Carlson & Högnäs, 2011; Gaertner, Spinrad, Eisenberg & Greving, 2007). In addition, this study relied on mothers' reports of the children's behavior. Although parents' reports of children's behavior have been found to correlate positively with teachers' reports (Conrad & Hammen, 1989; Richters & Pellegrini, 1989), such reports can no doubt include an element of perception that is not entirely accounted for by actual

behavior (Spiker, Kraemer, Constantine, & Bryant, 1992). It is acknowledged that objective reports of the constructs would have removed the potential for shared error variance.

Despite these limitations, this study contributes to the growing literature on nonresident father-mother co-parenting relationships and child socioemotional and developmental outcomes. It is worthy of note that the empirical authenticity of the processes tested was not rejected by the current findings. A large nationally representative dataset was used to test the relations between and among nonresident fathers' social support networks, father-mother co-parenting relationships, ACEs and behavioral outcomes longitudinally. As indicated early on, most studies that have examined the relationship between social support networks and parenting have focused primarily on mothers in middle-class white families. Importantly, the present study fills an important gap in current knowledge by focusing on nonresident Black fathers' social support networks and their sustained involvement with their children and their children's mothers in a population of economically and socially disadvantaged Black families headed by single mothers.

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Chapter 5

Conclusion of Dissertation

This three-paper dissertation examined the relationship between adverse childhood experiences (ACEs) in early childhood and child behavior problems in middle childhood and adolescence using data from a subsample of low-income unmarried Black mothers with a focal child during early childhood to adolescence from the Future of Families and Child Wellbeing Study (FFCWS). Recall that FFCWS is a national longitudinal research study designed to examine the characteristics of unmarried parents, the nature of their relationships, and the consequences for their children (FFCWS, 2023). The first study (Chapter 2) tested a model linking nonresident fathers' involvement, single mothers' parenting stress, and ACEs in early childhood to behavior problems in middle childhood and adolescence. The second study (Chapter 3) built upon this model, to explore the relationships between and among neighborhood social cohesion, ACEs, and parenting stress in early childhood and child behavior problems, also in middle childhood and adolescence. The third study (Chapter 4) investigated the roles of nonresident fathers' social support networks, the father-mother co-parenting relationship, and adverse childhood experiences in early childhood on child behavioral outcomes, again in middle childhood and adolescence. The studies were informed by Bronfenbrenner's (1995) person-process-context model and the results are largely in accordance with the theoretical expectations.

In the paragraphs that follow, the results of the studies are recapped. The first study found that nonresident fathers' involvement was negatively associated with mothers' parenting stress, which was associated, in turn, with children's increased exposure to ACEs and increased behavior problems. As expected, as well, ACEs in early childhood were positively associated with behavior problems in middle childhood and adolescence. These results suggest that nonresident fathers' involvement was important for the children in this study and, if these results can be replicated with larger and more representative samples, their involvement may protect such children from the detrimental effects of exposure to ACEs in early childhood.

The second study explored other contextual factors that might be associated with reductions in single mothers' parenting stress and children's exposure to ACEs. This study considered the larger context of neighborhood and community relationships. In doing so, the relationships between mothers' perceptions of neighborhood social cohesion, mothers' parenting stress, ACEs, and child behavior problems were investigated. Consistent with the hypothesized expectations, results showed that mothers' perception of neighborhood social cohesion—characterized by proximal processes involving mutual trusting relationships, interactions, and common bonds between neighbors (see, for example, Sampson et al., 1997)—was negatively associated with children's increased likelihood of exposure to ACEs in early childhood; and both parenting stress and ACEs early on were positively related to child behavior problems in middle childhood and adolescence. As indicated in Chapter 3, although these data, while longitudinal, do not match an experiment in terms of causal inferences, these findings highlight the important role that neighborhood social cohesion can play in reducing the consequences of adversity for poor single Black mothers and their young children in the context of neighborhood disadvantage. Intervention approaches that aim to develop and build trusting relationships and supportive bonds among neighbors might be appropriate aims for service delivery in some neighborhoods by health care providers or professionals, including social workers, working in mental health and medical clinics.

The final study in this dissertation also explored contextual factors by testing a model linking the contextual influences of nonresident fathers' social support networks, the father-mother co-parenting relationship, and ACEs in early childhood to behavior problems in middle childhood and adolescence. Consonant with this dissertation's theoretical perspective, the expectation at the outset was that nonresident fathers with better supportive networks in their larger social environment would be better at co-parenting with the mothers of the focal children

early on. The further expectation was that the favorable father-mother co-parenting relationship would be associated with fewer adverse childhood experiences in the children's early childhood, and together these contextual processes (Bronfenbrenner, 1995) were expected to predict fewer behavior problems longitudinally, in the children's middle childhood and adolescence. The results showed significant and direct relationships between fathers' social support networks and their co-parenting relationships, to adverse childhood experiences in early childhood, and to behavior problems over time. Although the mother-father co-parenting relationship was not directly related to child behavior problems as expected in this study, the results indicated an indirect effect between co-parenting and child behavior problems through adverse childhood experiences in early childhood. These results further show the importance of biological Black fathers in the lives of young children and highlight the potential value of their social support systems in their sustained involvement.

Implications and Recommendations for Future Research

Although these studies are subject to some common limitations, inasmuch as associations do not imply causation, the results of this dissertation have important scientific, practice and policy implications that contribute to the growing literature on nonresident Black fathers' involvement, poor single Black mothers' parenting stress and the consequences for their children. First, these findings suggest that increasing nonresident fathers' involvement may help reduce the adverse effects of single mothers' parenting and child developmental outcomes. If these results are valid, interventions and programs might provide psychoeducation to new mothers and fathers about the importance of fathers' sustained involvement for optimal child development. This can be particularly important for nonresident fathers who might be less likely to stay involved with their children during early childhood (Coates & Phares, 2019). Studies have found that unmarried Black parents are typically optimistic about their future together early

in their relationship, but most are no longer romantically involved by the time the child is 5 years old (Carlson, McLanahan, England, & Devaney, 2005; Jackson, Choi, & Preston, 2015). Studies also show that one of the primary predictors of fathers' involvement with their children is the quality of their relationship with their child's mother (McLoyd, 1990; Tach, Mincy & Edin, 2010; Cabrera et al., 2008; Ryan, Kalil, & Ziol-Guest, 2008; Coley & Chase-Lansdale, 1999; Kana'iaupuni, Donato, Thompson-Colon, & Stainback, 2005). Interventions that encourage healthy co-parenting relationships between unmarried parents may also support healthy child development and build necessary resilience for children at higher risk for exposure to ACEs. Community outreach programs can encourage nonresident fathers, who often have few supportive resources in the community, to connect with each other and begin to build meaningful social networks. Policymakers and community organizers might advocate for programs that encourage and foster supportive community relationships for socially and economically disadvantaged Black families (Ellis and Dietz, 2017) and enhance neighborhood cohesion among its members, especially for single mothers with limited resources (McKloskey & Pei, 2019). Future studies should aim to further develop and test such interventions and inform these policy changes.

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