

PARENT-CHILD RELATIONSHIPS AND DEMOGRAPHIC OUTCOMES ACROSS THE
LIFE COURSE

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PARENT-CHILD RELATIONSHIPS AND DEMOGRAPHIC OUTCOMES ACROSS THE LIFE COURSE

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This dissertation examines how parent-child relationships in adolescence shape union formation, mental health, and fertility in emerging and young adulthood, using data from the National Longitudinal Study of Adolescent to Adult Health (Add Health). Chapter one provides an introduction and motivation for the role of parents in the transition to adulthood. Chapter two (with Sharon Sassler) examines whether adolescent reports of maternal closeness and parental control are associated with youth's likelihood of being in an interracial relationship in emerging adulthood. We find that parental factors do influence emerging adults' romantic relationships, and that they vary by race, ethnicity, and gender. Among White men, reports of maternal closeness in adolescence reduce the likelihood of being in an interracial relationship in emerging adulthood. Parental control elevates the odds of being in an interracial or interethnic relationship among Black and Hispanic women. We also find that parental decisions on where families live shape offspring's choices, as growing up in more diverse census tracts in adolescence is associated with interracial union formation in later life. Chapter three examines the roles of school disconnectedness and maternal relationship quality in shaping depressive symptoms from adolescence to emerging adulthood, and variations across race and ethnicity. School disconnectedness in adolescence is associated with increased depressive symptoms in emerging adulthood. Maternal warmth and communication in adolescence is also associated with decreased depressive symptoms, but only among White and Hispanic emerging adults. Maternal

warmth and communication moderates the association between school disconnectedness and depressive symptoms in emerging adulthood, showing that it is an important protective factor for mental health in the transition to adulthood. Chapter four examines how individual attitudes and parent-child relationships in adolescence are associated with the likelihood of having a non-marital birth in emerging and in young adulthood. I find that individual attitudes about non-marital fertility predict the likelihood of having a non-marital birth among all women. Among minority women, I find that higher levels of maternal warmth and communication are associated with a decreased likelihood of having a non-marital birth in young adulthood. In particular, maternal warmth and communication in adolescence is associated with a decreased likelihood of having a non-marital birth in young adulthood among Black and Asian women. Chapter five concludes the dissertation and provides limitations and future directions. Collectively, this dissertation provides evidence that parent-child relationships in adolescence shape demographic outcomes in emerging and in young adulthood, and vary across race, ethnicity, and gender.

BIOGRAPHICAL SKETCH

Xing Zhang was born and raised in Guelph, Ontario, Canada, and Barrington, Illinois. She attended the University of Illinois at Chicago and majored in Economics, and minored in French and Math. Originally intending to attend pharmacy school, she decided to pursue a PhD after her graduate instructor, Dr. Silda Nikaj, encouraged her to apply to graduate programs in Economics.

After studying abroad in the spring of 2011 in Paris, France, she spent the summer doing research at the Institute for Health Research and Policy at UIC. In Fall 2012, She began her graduate studies in Policy Analysis and Management at Cornell University and minored in Demography. After the completion of her PhD, she will pursue a postdoctoral fellowship as a Health Disparities Research Scholar at the University of Wisconsin – Madison. She hopes to pursue a career in academia and support underrepresented students of color.

To my parents, Linxiu Wu and Wencan Zhang

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CHAPTER 1

PARENT-CHILD RELATIONSHIPS ACROSS THE LIFE COURSE: AN INTRODUCTION

Parent-Child Relationships across the Life Course: An Introduction

Despite claims that young adults are living in an age of “independence,” (Rosenfeld, 2007), young adults are increasingly dependent on their parents and delaying the transition to adulthood (Furstenberg, 2010; Newman, 2012; Settersten & Ray, 2010; Sironi & Furstenberg, 2012). Over the life course, parents may exert influence on their children in many ways: not only do parents seek to transmit their attitudes towards various issues and shape the behaviors of their offspring, but they may encourage (or discourage) children’s mating choices, monitor their activities, and provide financial support (Axinn & Thornton, 1992; Jaccard & Dittus, 2000; Leslie & Johnson, 1986). As children grow older, parental involvement and engagement may decline from adolescence to young adulthood, as children and parents negotiate the balance between adolescent autonomy and parental control (Aquilino, 1997). The process of parental separation and gaining independence is referred to as “individuation,” a process that begins when adolescents spend less time with their parents (Laursen & Collins, 2009). However, adolescent autonomy does not necessarily translate into complete separation - parents still provide emotional and financial support for their children as they transition from adolescence to emerging (18-25 years old) and young adulthood (early thirties) (Aquilino, 2006; Arnett, 2006; Grotevant, 1998).

Parental support and warmth is vital to children’s well-being as they transition into adulthood (Aquilino, 2006). Parental support is associated with decreased levels of depression and higher psychological well-being from adolescence to young adulthood (van Wel et al., 2002). Aspects of parental involvement, such as parental closeness, control, and attitudes towards sexual behavior, have been associated with a lower likelihood of being in a romantic relationship, and delayed sexual debut of adolescents (Jaccard & Dittus, 2000; Kapinus &

Gorman, 2004; King & Harris, 2007; Longmore et al., 2009). The rising importance of parents coincides with other demographic changes among young adults. Compared to the 1980s, contemporary young adults aged 18-34 years old are more racially and ethnically diverse, more likely to be foreign-born, more likely to live with their parents and pursue higher education, and more likely to have never married (U.S. Census Explorer, 2018). How do parent-child relationships impact these sweeping demographic changes, and how do they vary by race and ethnicity? Does parental influence decline over the life course, as adolescents gain more autonomy as they transition to young adults? Or, do parents remain an important source of emotional support, even beyond adolescence? To begin to answer these questions, I explore how parent-child relationships in adolescence shape interracial relationship and union formation, depressive symptoms, and non-marital fertility in emerging and in young adulthood.

The Role of Parents

The history of childhood

Historically, the roles and expectations of those who were “parents” and “children” differed considerably from contemporary norms. In the 1500s, it was perceived that parents withheld love and affection from their children due to high child mortality (Cherlin, 2013). Children during the late 1500s were treated as little adults, and were expected to contribute to the family by working. From the late 1700s to 1900s, children became more central in the family, and social philosophers increasingly suggested their need for affection, care, economic support, and discipline (Cherlin, 2013; Rousseau, 1979). By the mid-1800s, German feminists advocated the need for kindergarten in order to nurture children for society (Allen, 1982). In the early 1900s, family satisfaction increasingly revolved around the quality of marital and child relationships. From the 18th to the 20th centuries, the meaning of childhood changed, as children

were no longer seen primarily as workers for the family – they were increasingly seen as having sentimental value to parents (Zelizer, 1985).

Why are parents important?

Upon birth, children are dependent on their parents in order to survive. The fundamental task of parents is to enable children to survive economic, physical, and social situations.

Bornstein (2006) describes the essential functions of parents into different types of caregiving: nurturant, material, social, and didactic. In nurturant caregiving, parents provide food, shelter, supervision, clothing, and grooming for their children. Material caregiving involves providing and organizing the child's environment, to provide safety for children. Social caregiving involves parental behaviors, such as smiling and complimenting, to make children feel accepted and valued. Didactic caregiving involves opportunities for parents to teach, describe, and demonstrate for children to understand their surroundings. Aside from caregiving, parents are also responsible for their children's socialization. Socialization is defined as the "process whereby an individual's standards, skills, motives, attitudes, and behaviors change to conform to those regarded as desirable and appropriate for his or her present and future role in any particular society" (Parke & Buriel, 1998; p. 463). Examples of norms and attitudes parents teach their children include gender ideologies and appropriate behaviors towards the elderly (Bornstein, 2006; Cherlin, 2013).

Across the life course, parents provide material and emotional support, and control which behaviors are acceptable or not. Parents can also teach their children particular norms and values (Cherlin, 2013). In emerging and young adulthood, parents can provide living arrangements at home, material resources for their children to attend college, and guidance over decisions they may face (Goldscheider & Goldscheider, 1993). Children's socialization processes are important,

as they set the stage for relationships with adults and children into adulthood (Maccoby, 1998). The question of whether parents continue to influence their children over the stages of adolescence, emerging, and young adulthood, can provide insight into the conflict between parents and children on parental control and children's autonomy (Goldscheider & Goldscheider, 1993; Montemayor & Flannery, 1991; Smetana, 1989).

Models of Parental Influence

Parental Socialization (Parke & Buriel, 1998)

In the model of parental socialization, parents are managers of children's opportunities, monitor and participate in children's activities, are social initiators and arrangers, and provide peer contacts for their children (Parke & Buriel, 1998; p. 468). In this model, parents are seen as instructors, educators and consultants. Parents may educate their children on norms and rules. Parents can be seen as teachers, coaches, and managers for children's social situations and negotiating social challenges or dilemmas. They can regulate who their children interact with, organize the child's environment, and control social opportunities outside of the child's family.

Darling and Steinberg (1993) outline a model of parental socialization that incorporates parental styles, parental practices, parental goals, and adolescents' receptiveness to the behaviors. In this model, parental styles are defined as a "constellation of attitudes toward the child that are communicated to the child and create an emotional climate in which the parent's behaviors are expressed" (Darling & Steinberg, 1993; p. 493). Parenting styles act as a moderator to parenting practices; parenting styles can influence adolescent outcomes by affecting the child's receptiveness to parental influence, and changing the nature of the parent-child interaction. Examples of parenting styles include authoritative, authoritarian, and permissive, and rejecting-neglecting (Baumarind, 1991).

Authoritarian parents expect that their children are obedient without explanation on the children's end. Authoritative parents are not restrictive, but demanding and respond to their children's needs. Permissive parents are lenient and give their children flexibility over their behaviors and decisions. A fourth dimension of parenting styles was added by Maccoby & Martin, rejecting-neglecting (1983). These parents do not participate in the caregiving of their children, and do not monitor their children's activities. These parenting styles have been associated with varying outcomes for children. In general, authoritative parenting is associated with higher self-esteem and school performance for children, while rejecting-neglecting parenting is associated with lower self-esteem and a greater likelihood of engaging in deviant behaviors (Baumrind, 1991).

The traditional parenting style model has been criticized due to the lack of attention to the goals parents may have when implementing these styles. Parenting practices differ from parenting styles in that they are "behaviors defined by specific content and socialization goals" (Darling & Steinberg, 1993; p. 492). For instance, parents who would like their children to do well in school can help their children finish homework, ask how they are doing in school, and go to school activities. Although parents may implement certain styles, children's receptiveness to their parents' parenting styles and practices may also shape their outcomes. Children may be open to listening to their parents, or reject parental guidance. Darling & Steinberg (1993) argue that these factors are separate from each other and are important in determining adolescent outcomes.

Parenting styles may not have universal effects on children's outcomes – variations have been found by race and ethnicity. Blacks, Hispanics and Asian families were more likely to be authoritarian in their parenting styles than White families (Dornbusch et al., 1987). In fact,

studies have shown that authoritative parenting is associated with increased school performance for White and Hispanic children, authoritarian parenting is associated with increased school performance for Asian children, and no parenting style was associated for Black children (Dornbusch et al., 1987). Asian and Black children may be more accepting of increased parental control, and do not report lower closeness in response to greater parental control (Steinberg et al., 1992).

The (Delaying) Transition to Adulthood

Relationships between children and parents vary across the life course. Parental involvement during childhood is more accepted, but conflict may arise as children become adolescents, resulting from the tension between parents exerting control, and adolescents' desires to become more independent (Goldscheider & Goldscheider, 1993). This tension is referred to as finding the balance between autonomy and togetherness (Montemayor & Flannery, 1991). Empirically, self-reported parent-child closeness is lowest during adolescence at age 16, and increases when young adults become ages 19 and older (Rossi & Rossi, 1990). Parental closeness and control is also consistent from adolescence to early adulthood – parental closeness and control in adolescence predicted closeness and control in young adulthood (Aquilino, 1997).

Despite the dip in parent-childhood closeness during adolescence, parents still matter to their children over the life course. Transitions to the traditional demographic markers of adulthood, such as completing higher education, securing a job, living on one's own, getting married, and having children, have become delayed and more complex (Settersen et al., 2015). The notion of what it means to be an adult also has psychological markers: accepting self-responsibility, making decisions independently, and being financially independent (Arnett, 2006).

A substantial portion, 56%, of emerging adults aged 18-24 continue to live with their parents (Fry, 2014). The share of adults aged 25-34 who lived with at least two adult generations are also more likely to live with their parents – from 1980 to 2012, the proportion increased from 11% to 24% (Fry & Passel, 2014). A misconception is that once young adults become independent and live on their own, the emotional ties to their parents are cut off, and they make their decisions autonomously. Arnett (2006) finds that although parental control decreases when emerging adults go off to college, emerging adults actually report feeling closer to their parents than they had as adolescents. They report that the relationship changes from being that of a parent-child to one that is more equal and more like a friendship (Arnett, 2006). How are parent-child relations theorized in the human development literature? Two explorations include the life course approach and recentering (Elder, 1998; Tanner; 2006).

Changes in Parent-Child Relations into Young Adulthood: The Life Course Approach (Elder, 1998) and Recentering (Tanner, 2006)

The theory of the life course is divided into four elements: the timing of lives, the interdependence of lives over the life span, human agency, and the importance of history and human lives (Elder, 1998). The timing of lives refers to the importance of age in defining the relevance of turning points and events. For example, the ages of 18 and 21 are important for allowing emerging adults the ability to vote, join the military, be legally recognized as an adult, and to drink alcohol. The interdependence of lives shows that parent-child interactions have effects on both parents and children, which are also linked to other family members, and friends. The third element, human agency, refers to the ability to choose to participate in activities, behaviors, and form relationships. The fourth element, the relevance of history and personal experiences, refers to how different age cohorts are affected by economic opportunities, cultural

values, and family experiences. For example, historical events such as the Great Depression, World War II, and more recently, the Great Recession, shaped economic and family experiences of those affected – marriage and childbearing were delayed during the Great Depression (Cherlin, 2013).

Another approach to parent-child relations from adolescence to emerging adulthood is referred to as recentering (Tanner, 2006). In this approach, the process of parent-child relations is a power shift that goes from parents to children. In the first stage, children are completely dependent on their parents for being taken care of, and embedded in the family of origin. In the second stage, adolescents may become more involved with romantic relationships, different types of jobs, and transitions in educational opportunities, but these relationships are unstable. The instability also reflects parent-child conflict over autonomy – adolescents and emerging adults may still be financially dependent on their parents in this stage, so they may have to decide whether to comply with their parents. In the third stage, young adults achieve permanent ties to their romantic partners, children, and occupations, marked by the solid lines.

Race, Ethnic and Gender Differences of Parental Influence in Emerging and Young Adulthood

Racial and ethnic differences reveal that White Americans tend to be more residentially independent and do not prefer to live close to their families than Blacks, Hispanics, and Asians. In addition, Whites were the least likely to endorse items related to taking care of a family relative to Blacks, Hispanics and Asians (Jablonski & Martino, 2013). In the transition to adulthood, In a study of 3rd-generation Native whites were the most likely to live on their own, relative to 1.5 and 2nd generation Chinese, Russians, South Americans, and West Indians (Kasinitz et al., 2009). For example, Asian Americans were more receptive to living at home

while attending college (Kasinitz et al., 2009). In Goldscheider & Goldscheider's (1993) study of pathways to leaving the parental home, Asian Americans reported the low expectations of nonfamily living, and also experienced low rates of nonfamily living. Asian Americans also valued living close to their families more than any other racial and ethnic group. Hispanic Americans were the least likely to have expectations and to actually leave the parental home before marriage. Blacks were the most likely to expect and actually experience nonfamily living outside of marriage.

Variation in parental involvement and control also varies by gender, with women reporting more parental control and involvement than men (Dubbs et al., 2011; Madsen, 2008; Sassler et al., 2008). Parents socialize their children to behave in appropriate ways according to their gender (Cherlin, 2013). Gender stereotypes are constantly being repeated and modified (Coltrane & Adams, 2008). Parents tend to be stricter enforcers of gender conformity in sons than daughters; fathers tend to do more gender stereotyping than mothers, and parents with egalitarian gender attitudes demand less conformity than parents with more conservative views (Coltrane & Adams, 2008). Parental expectations were stronger predictors of nonfamily living for women than for men – those who had parents who expected their children to move out of the home were more likely to live independently (Goldscheider & Goldscheider, 1993).

Research Contributions of Dissertation

Though there exists a wealth of research on the role of parents on child and adolescent development, less is known about the role of parents in the transition to adulthood – in particular, how early experiences in the formative years of adolescence with parents can shape children's demographic outcomes. My dissertation examines the role of parents in shaping children's demographic outcomes in the transition to adulthood, specifically interracial relationship and

union formation, depressive symptoms, and non-marital fertility. These outcomes are important because they have all risen in prevalence in the past half-century. I ask the following broad questions:

1. How do parent-child relationships, growing up in diverse racial and ethnic census tracts in adolescence shape the likelihood of being in an interracial relationship in emerging adulthood?
2. How are adolescent experiences at school associated with depressive symptoms in emerging adulthood, and how does maternal relationship quality in adolescence serve as a protective buffer for depressive symptoms in emerging adulthood?
3. How do individual attitudes on non-marital fertility and parent-child relationships with the likelihood of having a non-marital birth in young adulthood?

I explore these research questions in Chapters Two, Three, and Four using data from the National Longitudinal Study of Adolescent to Adult Health. I draw upon theories, such as group positioning (Blumer, 1958), the life course theory (Elder, 1998), the stress buffering model (Cohen & Wills, 1985), the integrative model (García-Coll, 1995), the theory of reasoned action (Ajzen & Fishbein, 1980), and the social learning model (Longmore et al., 2013), to assess how parents can continue to influence their children beyond adolescence. Overall, I find that parents shape their children's likelihood of being in an interracial relationship, mental health, and non-marital fertility outcomes in emerging and young adulthood, with variation across race, ethnicity, and gender.

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CHAPTER 2

THE AGE OF INDEPENDENCE, REVISITED: PARENTS AND INTERRACIAL UNION FORMATION ACROSS THE LIFE COURSE with Sharon Sassler

Abstract

Romantic relationships which cross racial lines have grown since anti-miscegenation laws were deemed unconstitutional. To account for the rise in interracial relationships, Rosenfeld (*The Age of Independence*, 2007), argued that parental influence on children's romantic partner choice had waned. However, due to the cross-sectional nature of the census data Rosenfeld used, he was not able to test this supposition directly. Using Waves I and III of Add Health for a cohort of individuals from 1994-2002, we examine whether adolescent reports of maternal closeness and parental control are associated with youth's likelihood of being in an interracial relationship in emerging adulthood. We find that parental factors influence emerging adults' romantic relationships, with variation by race, ethnicity, and gender. Among White men, maternal closeness in adolescence reduces the likelihood of being in an interracial relationship in emerging adulthood. Parental control elevates the odds of being in an interracial relationship among Black and Hispanic women. We also find that parental decisions on where families live shape offspring's choices, as relative exogamous group size in adolescence is associated with interracial union formation in later life. Our findings suggest that parental influence and relative exogamous group size in adolescence remain salient in the partner choices made by emerging adults.

Keywords: Race and ethnicity; mate selection; parent-child relationships; transitions; emerging adulthood

INTRODUCTION

Since 1967, when the U.S. Supreme Court ruled that anti-miscegenation laws were unconstitutional (*Loving v. the State of Virginia*), the number of mixed-race marriages, cohabiting unions, and dating relationships have increased rapidly (Blackwell and Lichter, 2000; Qian and Lichter, 2007). Many view the increasing prevalence of interracial relationships as an indicator of blurring racial boundaries (King and Bratter, 2007; Qian and Lichter, 2007). Others (Rosenfeld, 2007) attribute these dramatic shifts to the decline in parental authority and control over children's mate selection. In his book, *The Age of Independence*, Rosenfeld (2007) argued that the delayed transition to adulthood experienced by contemporary young adults leads to greater autonomous decision-making regarding partner choice. This, he suggested, in conjunction with youth's residential mobility, has diminished the role parents play in their children's choice of romantic partners, with a resulting increase in interracial and same-sex unions.

The argument set out in *The Age of Independence* (2007) was that young people of the early 1990s and 2000s were more independent and more willing to select romantic partners without consideration of parental approval than previous generations. Yet a sizable body of literature argues that young adults were still dependent on their parents in the turn of the 21st century (Hardie and Seltzer, 2016; Newman, 2012). In 2000, approximately 23.2% of young adults aged 18-34 were living with a parent (U.S. Census Bureau, 2018). Co-residence with parents also varies by race and ethnicity, with minority youth more likely to reside with parents than White young adults (Hardie and Seltzer, 2016; Furstenberg, 2010). Young adults remain in school for longer, and often the more advantaged receive parental assistance in paying for school (Furstenberg, 2010). Parental socialization and monitoring also vary widely by the gender of the

child (Madsen, 2008), with parents as more lenient towards sons than daughters (Author). Furthermore, young adults of the 2000s often report high parent-child support and closeness (Hardie and Seltzer, 2016).

It is therefore important to revisit Rosenfeld's claims, and broaden their focus. Rosenfeld (2007) could not directly explore the association between parental control and children's partner choice, as his analysis relied on census data, which did not assess measures of parent-child involvement beyond co-residence. His analysis on parental involvement was also limited to Whites, despite abundant evidence that parent-child relationships vary by race, ethnicity, and gender (Aquilino, 1997; Foner and Dreby, 2011; Hardie and Seltzer, 2016; Rossi and Rossi, 1990). Finally, Rosenfeld did not address other secular factors that may facilitate interracial relationship formation – such as whether one grew up in a neighborhood with a greater representation of other groups, or the rise in less formal unions, such as dating and cohabiting relationships, where partner choice is more expansive than in marital unions.

In this paper, we directly test the association of adolescent reports of parent-child relationships and their likelihood of being in an interracial relationship in emerging adulthood, with a cohort of individuals from 1994-2002. Our paper uses two measures of parental influence: maternal closeness and parental control. Due to choice or circumstance, parents may also decide the neighborhoods to raise their children (Goyette et al., 2014), so we explore whether adolescent tract-level population composition of race and ethnicity, or relative group size, is associated with interracial union formation in emerging adulthood. To further assess Rosenfeld's argument that residential mobility facilitates independent partner choice, we also include a measure of post-mobility relationship formation and examine whether it is associated with an increased likelihood of being in an interracial relationship. Finally, we expand

Rosenfeld's earlier focus on White youth by including racial and ethnic minorities, and broaden the scope to explore gender variation in the association between parental factors and partner choice.

Transitions to Adulthood: Meaning, Change, and Variation

What it means to be an independent young adult has changed dramatically in the past century. For young adults of the early 2000s, many markers of adulthood, including living away from parents, completing higher education, being financially independent, getting married, and having children, occurred later and in different sequences than they did for previous generations (Furstenberg, 2010; Rosenfeld, 2007). Furthermore, the proportion of young adults that lived with their parents has grown over the past few decades; approximately 23% of young adults lived with their parents in the 2000s (Furstenberg, 2010; U.S. Census Explorer, 2018). One key aspect of the transition to adulthood – selecting a mate – has changed in many ways. In the 1980s, approximately 42% of young adults aged 18-34 were never married, but this changed to 53% by the early 2000s (U.S. Census Explorer, 2018). But as the pursuit of higher education has become more protracted and stable jobs that pay enough to support a family more difficult to find, marriage is increasingly delayed (Furstenberg, 2010). The increased duration between completing high school and “settling down” provides new opportunities for relationship exploration that earlier cohorts did not have, which has expanded young adults' opportunities to meet romantic partners from varied backgrounds (Rosenfeld, 2007). In addition, cohabitation has increased across all racial and ethnic groups in the United States, though the proportions cohabiting has grown more among Whites and Hispanics than among Blacks (Manning, 2012). This ever-lengthening period of “emerging adulthood” (Arnett, 2004) may weaken the impact of parental influence over young adults' choices over the life course.

Parental Influence

Parents have historically steered their offspring's mate selection, approving some partners and discouraging others (Kalmijn, 1998). Regarding parental influence over interracial relationship and union formation, Kalmijn (1998) argued that parents may prevent mixed marriages because they "threaten the internal cohesion and homogeneity of the group" (p. 400). Yahirun and Kroeger (2017) find that aspects of parent-child relationships in adolescence, such as perceived closeness, warmth, and care, are associated with a decreased likelihood of being in an interracial relationship in young adulthood.

Group positioning can also factor in; parents of the dominant group may view intermarriage as threatening their status position (Blumer, 1958). Specifically, White parents may disapprove of interracial relationships more than racial and ethnic minority parents. White family members were found to be the least supportive of their kin involved in interracial marriages, while Blacks were the most supportive of those in interracial relationships (Lewis & Yancey, 1995). Compared to those in monoracial relationships, those in interracial relationships are less likely to receive and perceive kin support. Whites in interracial relationships were less likely to receive residential and financial support, as well as perceived residential, financial, and childcare support, compared to Blacks and Hispanics in interracial relationships (Bratter and Whitehead, Forthcoming).

Parents can play a role in their children's romantic partner choices by offering their opinions of potential mates and withdrawing support for relationships they do not sanction (Lee & Bean, 2010). Yahirun (Forthcoming) finds that Blacks and Asians who marry Whites are more likely to live geographically further away and have less contact and visits from their mothers. Children, however, may also act against the wishes of their parents (Kalmijn, 1998).

On the other hand, parents may also be open to their children being in interracial relationships. A majority of Americans in the early 2000s were not opposed to a close relative marrying someone of a different race or ethnicity but were the most opposed to a relative marrying a Black partner, followed by a Hispanic, Asian, and White partner (Livingston and Brown, 2017). Our expansion of Rosenfeld's examination to a larger group of racial and ethnic groups allows us to assess whether group positioning and parental influence on partner choice are linked. In this paper, we use measures of maternal closeness and parental control to proxy for parental influence. Maternal closeness is the degree of attachment of the child to the mother (Kapinus and Gorman, 1994), while parental control is defined as "the degree and manner in which parents attempt to place constraints on their child's behavior" (Longmore et al., 2001; p. 324). In essence, parental control and maternal closeness are two faces of a coin; if closeness is the carrot, control is the stick that parents can use to shape their children's behaviors in ways they deem appropriate.

Maternal Closeness

Across the life course, maternal closeness tends to be lowest during adolescence, but increases in young adulthood. Using retrospective reports of closeness, Rossi and Rossi (1990) found that maternal closeness was lowest at age 16, followed by age 10 and then ages 19-29. They argued that closeness was lowest during adolescence as children "tried out their wings" in preparation for independence, but rebounded in the twenties due to maturation and a better understanding of the nature of parenting. Nonetheless, early experiences of parent-child relationships are important, even if closeness changes with age, as they set the stage for later parent-child interactions. Adolescents who experience cold and distant parenting may be less

able to develop warm and close relationships with parents later in life (Aquilino, 1997; Rossi and Rossi, 1990).

Research examining the role of maternal closeness has generally focused on the role mothers play in deterring the sexual activity of children, rather than on interracial union formation. These studies find that maternal closeness is associated with delayed sexual onset (Longmore et al., 2001; Manlove et al., 2012). Among two-parent families, high-quality relationships with mothers was associated with delayed sexual debut among boys (Manlove et al., 2012). Maternal closeness may also vary by race, ethnicity, and gender, with greater perceived parental supportiveness among Whites relative to minority groups (Hardie and Seltzer, 2016), and closer mother-daughter relationships relative to mother-son relationships (Suitor & Pillemer, 2006). Immigration status also factors in; first-generation immigrants reported greater parental supportiveness relative to second-generation Americans (Hardie and Seltzer, 2016).

The role of parent-child relationships, including parental closeness, on the formation of interracial unions has been associated with a decreased likelihood of being in an interracial relationship (Yahirun & Kroeger, 2017). Therefore, we anticipate that maternal closeness reduces the likelihood of being in an interracial relationship in emerging adulthood (Hypothesis 1a). Whether the association of maternal closeness and the likelihood of being in an interracial relationship varies by gender, race, and ethnicity is an open question, though the literature suggests that maternal closeness may matter more for girls relative to boys (Hypothesis 1b), and for Whites compared to racial and ethnic minorities (Hypothesis 1c).

Parental Control

A broader definition of parental control is “parental behaviors towards the child that are intended to direct the child’s behavior in a manner acceptable to the parent” (Barnes et al., 2006;

p. 1084). Among the facets of positive control are behaviors associated with the related concepts of discipline, supervision, and monitoring of adolescent behavior. Parental control and monitoring are associated with later sexual debut, and parental control declines from childhood to adolescence (Longmore et al., 2001).

Parental opportunities to exert control over their children's choice of romantic partners may vary by race and ethnicity. There is a large body of evidence documenting differences in parenting styles by race and ethnicity. In general, White parents are more likely than Black, Hispanic, or Asian parents to encourage independence among their adolescent children (Chao and Aque, 2009). Parents will ostensibly have more control over children's partner selection when they marry young than if they delay marriage into their late twenties. Furthermore, parents may have greater control over their children's selection of marital partners than over partners in less formal unions, such as dating or cohabiting unions (Blackwell and Lichter, 2000). Research on dating relationships suggests that some groups – Asian American men and Black women – are less likely to be involved in any form of romantic or sexual relationship in young adulthood, though this appears to be less a function of parental control and more attributable to these groups' placement in the racial and ethnic hierarchy of dating desirability (Balisteri et al., 2015).

Parental behavior also differs by the gender of the child. Daughters report experiencing greater levels of parental monitoring and involvement in their romantic relationships compared to sons (Author; Madsen, 2008). In general, over many age groups and family arrangements, parents (often mothers) were more controlling over their daughter's curfew, behaviors with their romantic partners, and clothing choices, than they were over son's (Madsen, 2008). We therefore anticipate a negative relationship between parental control and the likelihood of being in an interracial relationship (Hypothesis 2a), though we expect to observe a stronger association

between parental control, maternal closeness, and interracial relationships among women relative to men (daughters relative to sons) (Hypothesis 2b). We also expand on Rosenfeld's analysis by hypothesizing expected associations for racial and ethnic minorities. Given the body of research on racial and ethnic differences of parental control, we anticipate a stronger association between parental control and interracial unions among minorities than for Whites (Hypothesis 2c).

Other Factors Shaping Maternal Closeness and Parental Control

Of course, other factors play important roles in the mate selection process of contemporary young adults. Social class, in particular, shapes parenting styles, as well as the structural context shaping the people with whom children come in contact. Parental social class also shapes the pursuits young adults engage in (Lareau, 2003). More educated parents report exerting less control over young children, but also noted less closeness and more issues with control and conflict than did less educated parents (Aquilino, 1997). That may be because respondents with more educated parents also had a greater tendency to be in romantic relationships (King and Harris, 2007). The family structure adolescents experience while growing up exerts considerable influence on when they begin engaging in romantic relationships, and how such relationships progress (King and Harris, 2007; Longmore et al., 2001), as well as their likelihood of entering into interracial relationships. Relative to those who grew up in single-parent families, those who grew up with two biological or adoptive parents were less likely to have a first sexual partner of a different race and ethnicity (King and Bratter, 2007), and progressed more slowly into interracial sexual and cohabiting relationships (Author).

Relative Exogamous Group Size

Other factors, such as relative exogamous group size of minority and ethnic groups, shape contact with other racial and ethnic groups. The relative size of one's group matters as

opportunities for interracial interaction are limited to the markets that are available for partner choice (Blau, 1977; Choi and Tienda, 2017). Minority groups, because of their smaller size, have fewer partners from whom to choose within their own racial and ethnic group than do Whites, and this is reflected in their partnering behaviors. The research shows that when it comes to the choice of marital and cohabiting partners, Hispanic, Asian, and Black immigrants were more likely to be in an interracial relationship than were native-born Whites (Qian and Lichter, 2007). Furthermore, consistent with assimilation theory (Gordon, 1964), with increasing generation in the United States, the likelihood of being in an interracial relationship increased among racial minorities (Qian and Lichter, 2007).

Contact with racial and ethnic groups also shapes interracial relationship formation. In the contact hypothesis, Allport (1979) argued that the way to reduce prejudice and discrimination was to increase interpersonal contact between racial and ethnic groups. Empirical evidence shows that those who live in communities that are more diverse are more likely to have interracial friendships (Vanhoutte and Hooghe, 2012). Early interaction to others of different racial and ethnic backgrounds may be key; those who have had interracial relationships earlier in the life course (have a first sexual partner of a different race or ethnicity) are more likely to marry interracially (King and Bratter, 2007).

Parents, due to choice or circumstances, may also select the neighborhoods in which their children reside, yet another aspect of involvement. Evidence suggests that White parents often leave racially and ethnically diverse neighborhoods and choose to live in areas that are predominantly White (Goyette et al., 2014). In selecting new neighborhoods, White parents often rely on recommendations from high-status parents in their social networks, which may result in recreating racially homogeneous neighborhoods (Holme, 2002; Reardon et al., 2015). Relative

group size, then, may result from parental decisions in choosing neighborhoods, or parental “tastes” for remaining in diversifying neighborhoods. Alternatively, residing in a more diverse neighborhood may be due to circumstances - an indicator of economic difficulty in relocating in the face of growing neighborhood diversity (Goyette et al., 2014). Therefore, we expect that a higher relative exogamous group size in adolescence will be associated with an increased likelihood of being in an interracial relationship in emerging adulthood (Hypothesis 3).

Leaving the Nest, or Moving to a New Location

Moving away from the state of one’s birth might also be formative in shaping the partnering behaviors of young adults. In fact, Rosenfeld (2007) asserted that contemporary young adults’ greater mobility, relative to young adults in the early half of the 20th century, had increased the increased likelihood of finding a partner of a partner of a different race. Unfortunately, because Rosenfeld relied on census data, it was not possible to determine whether young adults had moved with their parents, moved because they left the parental home for college, or moved for a job opportunity. Mobility involves changing residential location and breaking off ties from home, which may result in moving to regions that are more racially and ethnically diverse than their home states and more liberal views (Park, 1928). However, young adults may also move to areas where they find themselves with a larger choice of partners of their own race or ethnic group. Migration may therefore exert different effects by race and ethnicity, as well as gender. We therefore expect that those who moved to a new state prior to the start of their current romantic relationship will be more likely to be involved in an interracial relationship than those who did not move out of their state (Hypothesis 4).

METHOD

Data are from Add Health (<http://cpc.unc.edu/projects/addhealth>), a nationally representative school-based study of adolescents in the United States. The first wave of data was collected in 1994-1995, when adolescents were 12-18 years old. The sample size for this wave was 20,745 students. Wave III was collected in 2001-2002, when respondents were between the ages of 18-28 years old at the time of interview; the sample size was 15,197. Responses were collected using audio-assisted self-interviews on laptop computers. We used data from the adolescent in-home interviews for Waves I and III (response rates of 79% and 77.4%). In Wave III, 7,898 respondents reported current and most recent (if they had no current sexual partner) sexual partners at the time of interview; the remaining respondents reported no current or most recent sexual partners. Respondents who did not report their own or their romantic partner's race were removed ($n=119$), who did not know the time their relationship started ($n=63$), as were those with missing sample weights ($n=401$). We include multiracial respondents in our analysis but use the single racial category they most identify with in order to avoid ambiguity in defining the dependent variable of interracial relationships (Udry, 2003). We also omitted respondents who were Native American and Other races, due to small sample sizes ($n=114$). We omitted respondents who had missing geocodes on the contextual variables for relative exogamous group size in Wave I ($n=68$). Last, we removed respondents who had missing data on school enrollment ($n=79$), parental financial assistance ($n=4$), residential status ($n=43$) in Wave III. Our final analytic sample was 7,007 relationships, after removing respondents who had missing characteristics outlined above. Our sample was approximately 46% of the original Wave III sample and 89% of the reported current and most recent sexual partnerships.

Dependent Variable

The dependent variable was a dichotomous measure indicating whether the respondent was in an interracial relationship or union in Wave III. If the respondent's single-identified race or ethnicity reported in Wave I (Udry, 2003) was not the same race or ethnicity of the romantic partner in Wave III, the respondent was designated as being in an interracial union or marriage.¹

Main Independent Variables

Our primary independent variables are measures of maternal closeness and parental control, the relative exogamous group size of the respondent at the time of their initial interview, and whether the respondent moved prior to starting their current or most recent romantic relationship. The measures of maternal closeness and parental control were measured at Wave I, as was our indicator of the relative exogamous group size of the respondent. We created our measure of *maternal closeness* at the initial survey based on responses to the following questions: How close do you feel to [current residential mother?]; for those who didn't have a current residential mother, respondents were asked: How close do you feel to [previous residential mother?]; and for those with no previous residential mother: How close do you feel to your biological mother? Answers were reverse-coded and ranged from not close at all (1) to extremely close (5). We chose to focus on maternal closeness because 45% of the sample did not report a family structure of two biological parents in Wave I.

Parental control was a scaled measure of responses to five yes-no items asked at Wave I: whether parents allowed the respondent to choose friends, clothes, TV programs, how much TV to watch, and which food to eat (Cronbach's alpha = .69 for men, and .68 for women). Responses

¹We chose to remain with the single-identified race variable in Wave I to define interracial relationships, to maintain consistency in the key explanatory variable of relative exogamous group size and the control variable of prior interracial relationship experience in Wave I.

were reverse-coded so that higher scores indicated greater levels of parental control. The final scaled measure ranged from 0 (no parental control) to 1 (more parental control). Although Wave III also contained a measure of maternal closeness, we do not include it in our analysis as it is measured after the start of the romantic relationship and is therefore endogenous. We also included a measure for *relative exogamous group size* in adolescence by calculating the percentage of the population in the respondent's census tract who was not the same race or ethnicity as the respondent's reported race and ethnicity in Wave I.²

To test Rosenfeld's (2007) hypothesis that moving to a new state is associated with interracial union formation, we include a measure of *post-mobility relationship formation*. This was measured from the following questions in Wave III: "Have you continuously lived in your current state since the last interview year?", "In what year did you move to {STATE}?", and "How old were you when you first became romantically or sexually involved with {initials}?" The year the respondent started the relationship with his or her current or most recent partner was calculated by adding the age of first involvement to the year of the respondent's birth. Those who continuously lived in their state since the last interview were coded as 0. If the respondent started the relationship before moving to a new state, the respondent was coded as 0. If the respondent started the relationship after moving, then the respondent was coded as 1.

Control Variables

Control variables include gender, race and ethnicity, nativity of the respondent, proxies for social class (family structure and maternal education, both measured in Wave D), romantic

²We did not include a school measure of racial and ethnic diversity, because Add Health only reports the percentage of White students who attended the respondents' school in Wave I in four categories: 0%, 1-66%, 67-93%, and 94-100% (Harris, 2009), and would not accurately capture relative exogamous group size for all racial and ethnic groups.

relationship characteristics (the type of relationship, the age at which the respondent started the relationship, whether the relationship reported in Wave III was heterosexual, and if the respondent reported being in a previous interracial relationship in Wave I), and measures of independence in Wave III (being enrolled in school, being employed, receiving financial support from parents, and living outside of the parental home). The gender of the respondent was a dichotomous variable (1 = male). The race and ethnicity of the respondent and their romantic partner was categorized into four mutually exclusive groups: non-Hispanic White (reference category), non-Hispanic Black, Hispanic, and non-Hispanic Asian using Add Health's constructed race variable, which was based on the respondent's identified single race and only available for Wave I (Udry et al., 2003). The race and ethnicity of the respondent was measured in Wave I, and the single-identified race and ethnicity of their romantic partners was measured in Wave III. The respondent's nativity was measured in Wave I with the question, "Were you born a U.S. citizen?" Respondents not born in the United States were classified as first-generation immigrants. Respondents who were born in the United States but had parent(s) who were not born in the United States were categorized as second-generation Americans. Respondents who were born and had both parents born in the United States were classified as third generation Americans (reference category).

To proxy for the social class of our respondents in adolescence, we included the respondent's family structure and maternal educational attainment, both measured in adolescence. Family structure, or the family members living in the respondent's household, was measured at the time of interview in Wave I, using Add Health's constructed 5-category family structure variable (Harris, 1999). We collapsed this variable to a 4-category variable. The first category included respondents with two biological parents (reference category), the second

category was two parents (any combination of step, foster, or adoptive), the third category was single parent only, and the fourth category was other (grandparents, siblings, and other kin and non-kin support). The maternal education of the respondent was measured in Wave I with the question “How far in school did she [resident mother] go?” It was coded as a categorical variable with the following groups: did not graduate from high school (reference category), high school graduate or GED, some college, completed college and more, and don’t know. We did not include a measure of household income in Wave I because it was only asked of parents who completed the Parent Questionnaire in Wave I, of which 76% of our analytic sample completed. In supplemental analyses, we did not find that household income in Wave I was significantly associated with interracial relationship and union formation.

We also explore whether the likelihood of being in an interracial relationship varies by the relationship type, the age at which the relationship started, the sexual minority status of the respondent, and if the respondent reported being in a previous interracial relationship. For the relationship type, we used Add Health’s 4-mutually exclusive categories of whether the respondent was married (reference category), cohabiting, in a sexual relationship, or pregnant with his or her romantic partner (Harris, 2009). Because parental control may wane over the life course (Longmore et al., 2001), we also measure of the age of the respondent when the relationship began; we created the variable based on how old the respondent was when the romantic or sexual relationship began. The age categories for Wave III were grouped into those 18 years and younger, 19-22 years old, and older than 22 years old to reflect timing in transitions in and out of high school and college. The sexual minority status variable was created by cross tabulating the genders of the respondents and their romantic partners. Respondents and romantic partners with the same sex (male-male and female-female) were coded as being in a homosexual

(sexual minority) relationship. We control for prior interracial relationship experience, in order to address reverse causality in respondents' underlying propensity to interact across racial lines and because we do not know respondents' racial attitudes in adolescence. Our measure of whether the respondent had been in a previous interracial relationship is based on information obtained in Wave I on the reported race and ethnicity of their romantic partner in adolescence, and if it differed from the race and ethnicity of the respondent.

We include measures of independence from parents in emerging adulthood, including school enrollment, employment, parental financial support, and living outside of the parental home. School enrollment came from the question asked in Wave III, "Are you currently enrolled in school?" Responses ranged from 0 (no) to 1 (yes). The respondent's employment status was from the question, "Are you currently working for pay at least 10 hours a week?" with responses from 0 (no) to 1 (yes). Parental financial assistance came from the yes-no question, "Has your biological mother given you any money or paid for anything significant for you during the past 12 months? Don't include regular birthday or holiday gifts." The same question was asked of the current residential mother, previous residential mother, biological father, current residential father, and previous residential father. To capture an overall measure of parental financial assistance, we coded the variable as 1 if the respondent received any money from a parent in the past year, and 0 if the respondent received no money from a parent in the past year. We control for the respondent's place of residence at the time of interview in Wave III from the question, "Where do you live now? That is, where do you stay most often?" Responses included your parents' home, another person's home, your own place, group quarters, homeless, and other. From the responses, we collapsed the variable to two categories: 0 if the respondent lived at the parents' home, or 1 if the respondent lived outside of the parental home.

Analysis Plan

This study examined the role of parental factors, post-mobility relationship formation and relative exogamous group size in interracial union formation in emerging adulthood. We started with descriptive analyses of our primary measures and control variables, and then explored differences by gender, race, and ethnicity. Next, we explored the linkages between parental factors and post-mobility relationship formation on the likelihood of being in an interracial relationship. Because maternal closeness and parental control could be correlated with post-mobility relationship formation, we also explored whether these measures were highly correlated, which we did not find evidence for. We therefore utilized all three measures in our multivariate analyses.

Logistic regressions using Stata 14.1's multiple imputation by chained equations command (MICE) were estimated to calculate coefficients and odds ratios of being in an interracial relationship based on predictors measured in Wave I. Missing data on measures and background characteristics from Wave I were imputed using Stata 14.1's multiple imputation by chained equations (MICE) command (Royston and White, 2011). We imputed missing variables that had over 5% of the analytic sample missing (Schafer, 1999). The imputed cases included maternal closeness in Wave I ($n=634$ missing cases), parental control ($n=780$ missing cases), maternal education ($n=1061$ missing cases), and the age at which the respondent met his or her romantic partner ($n=998$ missing cases). Respondents who were missing data on these variables were less likely to have two biological parents in adolescence, reported lower maternal closeness, were more likely to be first-generation immigrants or second-generation Americans, and had lower maternal education relative to the imputed sample, but differences in descriptive characteristics were not significantly different at conventional levels of significance. When the

missing cases were excluded from the analysis, the analytic results remained similar in terms of significant results for the primary predictors. The one exception was for the association of post-mobility relationship formation and the likelihood of interracial union formation for Asian women, which was no longer significant when the missing data was not included. Twenty multiply imputed datasets were used (Graham et al., 2007).

Logistic regressions identified the strength and role of parental factors, relative exogamous group size, and post-mobility relationship formation, to examine patterns of homophily among different racial and ethnic groups. Model 1 (the reduced model) included only our primary independent variables (maternal closeness, parental control, post-mobility relationship formation, and relative exogamous group size), while Model 2 (the full model) included all the control variables. Separate analyses were conducted estimating the likelihood of being in an interracial relationship in Wave III by gender, and by gender, race, and ethnicity. For analyses run separately by gender, race, and ethnicity, our indicators of relative exogamous group size were included. This was the percentage of respondents living in a non-White, non-Black, non-Hispanic, and non-Asian tract in Wave I for Whites, Blacks, Hispanics, and Asians. Survey weights were applied for all analyses to account for the complex sampling design of Add Health.

RESULTS

Table 1 shows descriptive statistics for our measures of maternal closeness and parental control, relative exogamous group size, post-mobility relationship formation, and control variables for the analytic sample. Most respondents reported being very close to their mothers. Reported parental control during adolescence was low, meaning that on average, adolescents could make their own decisions regarding their friendships, and aspects of their daily lives,

including TV programs to watch and clothes to wear. Adolescents lived in census tracts that were predominantly White. Only 15% of respondents had started their romantic relationships after moving to a new state. At the time of their initial interview, approximately 10% of adolescents reported being in an interracial relationship, but by emerging adulthood, this share had nearly doubled, to 18% by the time of their Wave III interview.

[Table 1 about Here]

Interracial Union Formation by Race, Ethnicity, and Gender

Table 2 highlights how interracial union formation patterns vary by race, ethnicity, and gender, in Wave III. Although the prevalence of interracial relationships increased from adolescence to emerging adulthood, racial and ethnic homogamy was the dominant pattern. White and Black young adults were most likely to be in racially homogamous unions, as noted by the shaded boxes. However, gender disparities were evident. Black women had the highest proportion in racially homogamous unions (11%), followed by White men (12%), White women (16%), and Black men (24%). Hispanic men and Asian women were more likely to be in interracial relationships (39% and 44%, respectively, relative to Hispanic women and Asian men (37% and 36%), respectively, but these differences were not significant by gender.

[Table 2 about Here]

Main Predictors by Race, Ethnicity, and Gender

Table 3 shows descriptive statistics for our independent variables of interest by race, ethnicity, and gender. Gender differences emerged in men's and women's reports of maternal closeness. In Wave I, boys reported being closer to their mothers than girls, a finding that is apparent across all four racial and ethnic groups. Contrary to expectations, adolescent girls' reports of parental control in adolescence did not differ significantly from the reports of

adolescent boys. Relative exogamous group size in adolescence differed across race and ethnicity. White respondents reported the lowest relative exogamous group size (9%), while Asians had the highest relative exogamous group size (78%). Post-mobility relationship formation did not significantly vary by gender, but was significantly lower among Hispanic respondents relative to White respondents.

[Table 3 about Here]

Factors Shaping Interracial Union Formation by Gender

Results of our multivariate analysis exploring the associations between parental factors, relative exogamous group size, and the formation of relationships following migration on being in an interracial relationship or union in Wave III are presented in Table 4. In both sets of analyses, two models were estimated: the reduced model included only the main predictors, while the full model included all control variables. We subsequently include interaction terms for variables of interest (gender by maternal closeness and parental control, and race and ethnicity by maternal closeness and parental control), not shown in Table 4, before exploring gender-differentiated models to determine which measures differentially predict the likelihood of forming interracial relationships by gender.

Rosenfeld posited that parental influence no longer mattered in an era of increased independence, while post-mobility relationship formation would elevate the likelihood of being in an interracial relationship. However, results from Table 4 contract Rosenfeld's argument. Maternal closeness in adolescence is negatively associated with forming an interracial union in emerging adulthood. Although the coefficients are in the expected direction for our other indicators, post-mobility relationship formation by emerging adulthood does not elevate the risks of young adults being in an interracial relationship to conventional levels of

significance. Including our other controls in the full model reduces the association between maternal closeness in Wave I and being in an interracial relationship to non-significance, though the coefficient is still negative. For our overall sample, then, we do not find support for either Hypothesis 1a or 2a; neither maternal closeness nor parental control are associated with the likelihood of being in an interracial relationship. We also did not find evidence that relative exogamous group size (the proportion of non-White census tracts in adolescence) was associated with interracial union formation for the overall sample (Hypothesis 3). Finally, we did not find that starting a romantic relationship after moving to a new state was significantly associated with being in an interracial relationship (Hypothesis 4) for the overall sample. The results from our overall sample, with the exception of post-mobility relationship formation, support Rosenfeld's argument.

Do the associations of maternal closeness and parental control matter more for women than for men, as much of the existing literature would suggest (Hypotheses 1b and 2b)? Models that separately interact gender by maternal closeness and parental control yield no evidence that either measure exerts any greater influence on daughters' likelihood of partnering across racial lines than they do for son's chances of forming an interracial relationship (results available upon request). In other words, daughters who reported high maternal closeness or very controlling mothers were no less (or more) likely to have entered interracial relationships than sons who report high levels of maternal closeness or parental control.

We also examined whether maternal closeness and parental control mattered more for racial and ethnic minority groups compared to Whites (Hypotheses 1c and 2c). We interacted race and ethnicity by maternal closeness and parental control in the full model. Consistent with our expectations (Hypothesis 1c), we found that the interaction of being White and maternal

closeness in adolescence was significantly associated with a decreased likelihood of being in an interracial relationship. Contrary to our expectations (Hypothesis 1a), we found that the interaction of being Hispanic and maternal closeness was associated with an increased likelihood of being in an interracial relationship (results available upon request). In other words, relative to White respondents, Hispanic respondents who were closer to their mothers in adolescence were more likely to be in an interracial relationship in emerging adulthood. We did not find that the interaction of race and ethnicity and parental control on interracial union formation differed significantly for Whites compared to other racial and ethnic minority groups, so we could not confirm Hypothesis 2c for the full sample.

Other measures operate largely as expected. Hispanics and Asians are significantly more likely to be in interracial relationships than their non-Hispanic White counterparts, and those in less formal (cohabiting, dating, or pregnant) relationships are more likely to be in interracial unions than respondents who were in more formal (marital) relationships. We do not find that relationships formed at later ages are any more likely to be interracial.³ We also do not find that measures of independence, such as being enrolled in school, being employed, receiving financial assistance from parents, or living outside of the parental home are associated with being in an interracial relationship. Perhaps the largest predictor of being in an interracial union in Wave III was having been in one in Wave I. In fact, those with previous experience having a partner of another racial or ethnic background are over five times more likely to be in an interracial

³We ran the full model separately by the age of the respondent in Wave I to see if parental factors were stronger at earlier ages. We found the opposite; maternal closeness was significantly associated with a decreased likelihood of interracial union formation for respondents who were over 18, but not for respondents who were ages 12-15 and 15-18. We did not find significant associations of parental control and interracial union formation across all age groups.

relationship at Wave III than their counterparts who were not in interracial relationships as adolescents.

[Table 4 about Here]

Racial and Ethnic Variations in Interracial Union Formation in Emerging Adulthood

Of course, Rosenfeld's examination of the role of parental factors focused only on Whites, and while we find support for his argument upon looking at our total sample, associations may vary by race, ethnicity, and gender. Tables 5 and 6 present regression results, run separately by race, ethnicity, and gender, for our four groups, in order to assess the variation in the magnitude of parental factors, post-mobility relationship formation, and relative exogamous group size. The results from our regression analysis limited to non-Hispanic Whites do not support Rosenfeld's assertions. While Rosenfeld argued that that the independent life stage, free from parental influence, was driving interracial union formation, we found that among our cohort, maternal closeness was a strong predictor of being in an interracial relationship in emerging adulthood among White men. Maternal closeness in adolescence was associated with a 29% decreased likelihood of being in an interracial relationship ($OR = 0.71$) among White men, though the association did not reach conventional levels of significance among other groups. At the same time, we did not find evidence that parental control was significantly associated with interracial relationship formation for White men. Among White women, neither maternal closeness nor parental control were significantly associated with interracial union formation.

We do find that parental control plays a role in interracial union formation, but only among Black women and Latinas, and not in the direction we expected (Hypothesis 2a). Black women and young Latinas who reported experiencing the greatest levels of parental control in adolescence were over three times more likely to be in an interracial relationship at Wave III

than Black women and Latinas with parents who exerted less control. Parental control appeared to have backfired in this case.⁴

On one important dimension that Rosenfeld did not explore, relative exogamous group size in adolescence, our results provide strong support for the role of parents. Parents, whether due to choice or circumstance, can live in neighborhoods with higher levels of racial and ethnic diversity in adolescence, which shapes their children's partner market in emerging adulthood. In fact, we see that for most groups (except Black women and Asians) relative exogamous group size elevated the odds of interracial relationship formation, providing support for Hypothesis 3. These relative exogamous group size effects are particularly large for White and Hispanic men and women, and Black men. The results suggest that rather than being unimportant, parents continue to be salient in factors shaping the partner choices of their children.

For only one group – Asian women – did post-mobility relationship formation, or moving to a new state prior to the start of the current or most recent romantic relationship, elevate the odds of being in an interracial relationship in emerging adulthood. We therefore find only limited support for Hypothesis 4. Our sample size for Asians in relationships is relatively small; this may indicate the selectiveness of these women, who are both willing to move and are engaged in relationships, when a sizable share of Asians is not engaged in a romantic relationship by emerging adulthood (Balistreri et al., 2015).

⁴We ran these models separately by immigrant generation status to see if parental control differed by generation status, due to literature on parent-child relations that documents how tensions may arise between first generation immigrant parents and their second-generation American children (Foner and Dreby, 2011). Relative to first and third-generation Latinas, second-generation Latinas who had controlling parents were more likely to be in interracial relationships, but this was only significant at the $p < 0.10$ -level. Among Black women, those who reported more parental control were significantly more likely to be in an interracial relationship if they were third-generation Americans, but not if they were second-generation Americans or first-generation immigrants.

Few of our other measures exert uniform effects across all groups. Prior experience with being in an interracial relationship was the most salient across the most groups; with the exception of Asian men, all others who had been in an interracial relationship at Wave I were significantly more likely to be in an interracial relationship by Wave III. We also see some evidence of the “winnowing effect” (Blackwell and Lichter, 2004) among White women and Hispanics, where being in less formalized relationships (cohabiting, dating, or pregnancy relationships) were also strongly associated with having a partner of a different race or ethnic background. Finally, none of our measures of independence from parents were significantly associated with interracial relationship formation, except for Asian women, who were less likely to be in an interracial relationship if they received parental financial assistance in Wave III.

CONCLUSION

We revisited Rosenfeld’s *The Age of Independence* by examining whether parental factors, post-mobility relationship formation, and relative exogamous group size were associated with interracial relationship and union formation during emerging adulthood. We expanded Rosenfeld’s focus to include youth who were racial and ethnic minorities, and re-tested Rosenfeld’s claim on whether parents mattered in interracial relationship formation for a cohort of individuals from 1994-2002. While we do find some evidence to support Rosenfeld’s claims, we also find that parents do indeed shape their children’s partner choices. Among White men, maternal closeness was a salient factor, while among parents of racial and ethnic minorities, parental selection of the neighborhood in which children grow up (relative exogamous group size) emerged as an important factor shaping the partner choices of young adults.

In general, we argue that three important lessons can be gleaned from our study. The first is that on some dimensions, parents continue to exert an influence on their children’s choice of

romantic partners via closeness and control, though this is most evident for White men, Black women, and Hispanic women. Second, parents' decisions on where their families will live shapes the relationship choices of their children in adolescence and increases their likelihood of being in earlier interracial relationships. Therefore, these factors also have longer-term impacts as adolescents transition into emerging adults. The third finding is that post-mobility relationship formation matters, but only minimally. In other words, rather than being autonomous and completely independent of their parents, emerging adults continue to be influenced by them.

Although our descriptive results revealed higher levels of reported maternal closeness among Black, Hispanic, and Asian men than for White men, the only group for whom maternal closeness reached conventional levels of significance was White men. Studies of partner choice have found that despite a growing acceptance of unions that cross racial lines, racial status hierarchies persist (Feliciano et al., 2009). Why this persists, when men from other groups also exhibit traits desirable in partners, such as high levels of educational attainment or occupational achievement, suggests the persistence of group positioning (Blumer, 1958). Our results suggest that a way group positioning may operate is via parent-child ties. On the other hand, we found that parental control did not exert the expected effect, increasing the likelihood of interracial relationship formation among Black women and Latina women.

Even as we found evidence that parents matter in interracial relationship formation, what matters even more is relative exogamous group size in adolescence and prior interracial relationship experience. In the face of constraints and circumstances, parents generally choose the neighborhoods in which their children grow up (Goyette et al., 2014), suggesting that they play important roles in shaping the receptivity of their offspring to partners from different racial or ethnic backgrounds. While previous studies have examined relative exogamous group size and

interracial union formation in adolescence (Strully, 2014; Vanhoutte and Hooghe, 2012), this study provides an extension into emerging adulthood, and confirms that relative exogamous group size in adolescence indeed matters. This finding was held only among White men and women, Black men, and Hispanic men and women. The potential mechanisms driving this association need further exploration and include decreased prejudice through greater contact with other racial and ethnic groups, thus affecting preferences (Allport, 1979).

We also explored whether respondents had moved prior to the start of their most recent or current relationship, and if this increased their likelihood of partnering across racial or ethnic lines. Previous literature has suggested that those who are geographically mobile are more likely to have diverse friendship networks and be in interracial relationships (Rosenfeld, 2007; Vanhoutte and Hooghe, 2012). We did not find evidence for post-mobility relationship formation being associated with a greater likelihood of being in an interracial relationship among all respondents, but we did find that this association only reached conventional levels of significance for Asian women when differentiating our sample by race, ethnicity and gender.

Our study was not free from limitations. First, we only examine one cohort of individuals from 1994-2002, so we cannot directly assess whether parental influence has declined over time. Also, our measures of parental influence were limited. Our maternal closeness measure does not capture maternal preferences; mothers may encourage their children to date and marry across racial and ethnic lines. Parental control may differ across the life course, and our measure does not address control over relationship decisions. Although we control for prior interracial relationship experience in adolescence, we are not able to directly measure respondents' own racial and ethnic partner preferences or attitudes. Our measure of post-mobility relationship formation did not assess whether states that respondents moved to were more or less diverse than

their home states, because we did not know which states respondents moved to. Finally, our focusing on respondents from Wave III may be a limiting factor – we included those in current, sexual relationships. This led to an increase in the reported percentage of respondents in interracial relationships compared to the Census data, which only looks at those in married and cohabiting relationships (Qian and Lichter, 2007), as well as small sample sizes for Asians, who are less likely to be in romantic relationships during these stages (Balistreri et al., 2015). Relative to the Census data of 2000, our Add Health sample was less racially and ethnically diverse for the age cohort (U.S. Census Bureau, 2018).

Although the prevalence and tolerance of interracial relationships has increased in the U.S. since anti-miscegenation laws were declared unconstitutional (Livingston and Brown, 2017), our study shows that parents remain an important third-party influence that perpetuate racial and ethnic hierarchies in the U.S. Given stark racial, ethnic, and gender differences in the prevalence of interracial relationships (Livingston and Brown, 2017), this study provides a much-needed intersectional lens to examine interracial relationship formation that Rosenfeld (2007) overlooked. Our results indicate that White parents continue to have power in maintaining the white-nonwhite color line in the United States, though this operates mainly through maternal closeness with adult children, and parental choice of neighborhoods in adolescence. White families tend to live in majority-White neighborhoods (Goyette et al., 2014), which serves to limit children’s interactions with other racial and ethnic groups, thus maintaining social distance from minorities and perpetuating the white-nonwhite color line. Our findings contract Rosenfeld’s argument that parents no longer have influence over their children’s romantic relationship choices, and calls into question the extent to which children are fully “independent” from their parents in emerging adulthood.

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Table 1. *Summary Statistics for the Analytic Sample.*

Variable	Mean	SD	Range	α
Maternal closeness (W1)	4.50	0.02	1 to 5	
Parental control scale ^a (W1)	0.14	0.01	0 to 1	0.68
Relative Exogamous Group Size Measures				
Avg. % living in a non-White census tract (W1)	0.19	0.02	0 to 1	
Avg. % living in a non-Black tract (W1)	0.87	0.02	0 to 1	
Avg. % living in a non-Hispanic tract (W1)	0.93	0.01	0 to 1	
Avg. % living in a non-Asian tract (W1)	0.98	0.01	0 to 1	
Post-mobility relationship formation ^b	0.15	0.01	0 to 1	
Female	0.56	0.01	1 to 2	
Race/ethnicity			1 to 4	
NH White	0.71	0.03		
NH Black	0.14	0.02		
Hispanic	0.12	0.02		
NH Asian	0.03	0.01		
Immigrant generation status			1 to 3	
1st generation	0.05	0.01		
2nd generation	0.26	0.01		
3rd generation	0.69	0.01		
Age of respondent at interview (W3)			18-28	
Family structure (W1)			1 to 4	
Two biological parents	0.55	0.01		
Two parents (step or bio)	0.18	0.01		
Single parent	0.22	0.01		
Other family arrangement	0.05	0.00		
Mother's education (W1)			1 to 5	
Less than HS	0.16	0.01		
HS grad or GED	0.36	0.01		
Some college	0.19	0.01		
Completed college+	0.24	0.02		
Don't know	0.04	0.00		
<i>n</i>	7,007			

Table 1, Continued. *Summary Statistics for the Analytic Sample.*

Variable	Mean	SD	Range	α
Relationship type			1 to 4	
Marriage	0.26	0.01		
Cohabitation	0.32	0.01		
Sexual relationship	0.39	0.02		
Pregnancy	0.04	0.00		
Age when respondent met partner			1 to 3	
<19 years old	0.50	0.01		
19-22 years old	0.42	0.01		
22+ years old	0.08	0.01		
Homosexual relationship	0.02	0.00	0 to 1	
Enrolled in school (W3)	0.34	0.01	0 to 1	
Employed (W3)	0.72	0.01	0 to 1	
Parental financial assistance (W3)	0.52	0.01	0 to 1	
Lived out of the parental home (W3)	0.67	0.01	0 to 1	
% in an interracial relationship (W1)	0.10	0.01	0 to 1	
% in an interracial relationship (W3)	0.18	0.01	0 to 1	
<i>n</i>		7,007		

^aParental control scale consists of five “yes/no” items; whether or not the respondent perceived that his or her parent would allow him or her to choose who to hang out with, which TV programs to watch, how much TV to watch, and what to eat. 0 = not controlling at all, 1 = most controlling. ^bPost-mobility relationship formation: 0 = did not move; 1 = started romantic relationship after moving to a new state between Wave I and before Wave III.

Table 2. *Distribution of race and ethnicity of respondent and partner, by gender in Wave III.*

Wave III	Race/ethnicity of respondent							
	NH White		NH Black		Hispanic		NH Asian	
	Male	Female	Male	Female	Male	Female	Male	Female
Race/ethnicity of partner	s	s	s	s	s	s	s	s
NH White	0.88	0.84	0.11	0.03	0.27	0.21	0.18	0.21
NH Black	0.02	0.04	0.76	0.89	0.04	0.11	0.02	0.09
Hispanic	0.05	0.05	0.06	0.04	0.61	0.63	0.08	0.09
NH Asian	0.02	0.01	0.01	0.01	0.02	0.02	0.64	0.56
NH Native American	0.02	0.03	0.02	0.02	0.02	0.02	0.03	0.01
NH Other	0.01	0.02	0.04	0.02	0.04	0.02	0.05	0.04
In an interracial relationship	0.12	<u>0.16</u>	0.24 ^a	<u>0.11</u> ^a	0.39 ^b	0.37 ^b	0.36 ^c	0.44 ^c
<i>n</i>	1,664	2,421	513	791	541	625	192	259

Underlined coefficient represents significant differences by gender respective to racial and ethnic groups, at $p < 0.05$.

^a - Black-White differences; ^b - Hispanic-White differences; ^c - Asian-White differences, within gender, significant at $p < 0.05$.

Table 3. Descriptives of means for main predictors by race, ethnicity and gender.

	Wave III							
	Men				Women			
	NH White	NH Black	Hispanic	NH Asian	NH White	NH Black	Hispanic	NH Asian
Maternal closeness (W1)	4.56	4.70 ^a	4.67	4.60	<u>4.43</u>	<u>4.50</u>	<u>4.35</u>	<u>4.26</u>
Parental control scale (W1)	0.13	0.16	0.20 ^b	0.19	0.13	0.15	0.20 ^b	0.19
Census tract diversity[^] (W1)	0.09	0.48 ^a	0.67 ^b	0.78 ^c	0.09	0.43 ^a	0.67 ^b	0.78 ^c
Geographic mobility (W3)	0.18	0.16	0.10 ^b	0.14	0.17	<u>0.10</u> ^a	0.08 ^b	0.20
<i>n</i>	1,709	537	554	202	2,463	823	639	269

Underlined coefficient represents significant differences by gender respective to racial and ethnic groups, at $p < 0.05$.

^a - Black-White differences; ^b - Hispanic-White differences; ^c - Asian-White differences, within gender, significant at $p < 0.05$.

* Indicates significant difference from Wave I maternal closeness, at $p < 0.05$.

[^]Census tract diversity is defined as the percentage of respondents who are not the race or ethnicity of the respondent

Table 4. Logistic regressions of the likelihood of being in an interracial relationship in Wave III.

Variables	Reduced Model			Full Model		
	B	OR		B	OR	
Maternal closeness (W1)	-0.13 (0.05)	0.88	**	-0.09 (0.06)	0.91	
Parental control scale (W1)	0.04 (0.17)	1.04		0.03 (0.18)	1.03	
Post-mobility relationship formation (W3)	0.11 (0.12)	1.12		0.16 (0.13)	1.17	
Relative exogamous group size^a (W1)	0.33 (0.22)	1.39		-0.51 (0.30)	0.60	
Gender				0.08 (0.10)	1.08	
Race and ethnicity - NH White ; NH Black				0.31 (0.22)	1.36	
Hispanic				1.36 (0.17)	3.90	***
NH Asian				1.48 (0.26)	4.39	***
Immigrant generation status - 3rd gen; 1st gen				-0.36 (0.19)	0.70	
2nd generation				0.11 (0.12)	1.12	
Relationship type - Marriage; Cohabitation				0.70 (0.13)	2.01	***
Currently dating				0.46 (0.15)	1.58	**
Pregnancy				0.71 (0.22)	2.03	**
Age met partner; <19 years old; 19-22 years old				0.06 (0.11)	1.06	
22+ years old				-0.05 (0.16)	0.95	
Homosexual relationship				0.25 (0.38)	1.28	
Interracial relationship (W1)				1.68 (0.10)	5.37	***
Intercept	-1.01 (0.22)	0.36	***	-2.24 (0.34)	0.11	***
<i>n</i>						
				7,007	7,007	

*p < .05 **p < .01 ***p < .001. Standard errors in parentheses. ^aRefers to the percentage of non-Whites in the respondent's census tract during adolescence. Note: family structure, maternal education, school enrollment, employment status, residing outside of the parental home, and parental financial support were included as controls for the full model, but not significant.

Table 5. Likelihood of being in an interracial relationship for White and Black respondents.

Wave III	NH Whites				NH Blacks			
	Men		Women		Men		Women	
Variables	B	OR	B	OR	B	OR	B	OR
Maternal closeness (W1)	-0.34	0.71 **	-0.14	0.87	-0.13	0.88	-0.05	0.95
	(0.11)		(0.08)		(0.23)		(0.23)	
Parental control scale (W1)	0.03	1.03	-0.05	0.95	-0.74	0.48	1.23	3.42 *
	(0.49)		(0.31)		(0.60)		(0.56)	
Post-mobility relationship formation	0.14	1.15	0.05	1.05	0.44	1.55	-0.11	0.90
	(0.28)		(0.19)		(0.50)		(0.54)	
Relative exogamous group size (W1)	2.12	8.33 **	1.59	4.90 **	2.23	9.30 ***	0.27	1.31
	(0.64)		(0.59)		(0.50)	-	(0.62)	
Immigrant generation status - 3rd gen; 1st gen	0.54	1.72	0.38	1.46	-0.07	0.93	1.22	3.39
	(1.05)		(0.67)		(1.19)		(0.47)	
2nd generation	0.88	2.41 **	-0.15	0.86	0.14	1.15	0.26	1.30
	(0.24)		(0.22)		(0.52)		(0.38)	
Marriage; Cohab	0.35	1.42	0.99	2.69 ***	0.28	1.32	-0.55	0.58
	(0.28)		(0.19)		(0.63)		(0.43)	
Sexual relationship	-0.30	0.74	0.82	2.27 **	0.25	1.28	-0.44	0.64
	(0.32)		(0.25)		(0.73)		(0.48)	
Pregnancy	-0.62	0.54	1.84	6.30 ***	-0.14	0.87	-0.90	0.41
	(0.73)		(0.37)		(0.99)		(0.64)	
Age met partner; <19 years old; 19-22 years old	0.23	1.26 *	-0.07	0.93	0.18	1.20	0.40	1.49
	(0.22)		(0.18)		(0.39)		(0.35)	
22+ years old	-0.16	0.85	0.04	1.04	0.08	1.08	0.58	1.79
	(0.37)		(0.27)		(0.58)		(0.39)	
Homosexual relationship	0.75	2.12	-1.76	0.17	3.48	32.50 **	2.56	12.90 **
	(0.70)		(0.93)		(1.13)		(0.89)	
In an interracial rel. (W1)	1.49	4.44 ***	1.24	3.46 ***	1.67	5.31 **	2.06	7.85 ***
	(0.28)		(0.18)		(0.47)		(0.44)	
Intercept	-0.62	0.54	-2.20	0.11	-1.86	0.16	-3.01	0.05 *
	(0.66)		(0.40)		(1.32)		(1.36)	
<i>n</i>	1,664		2,421		513		791	

* $p < .05$ ** $p < .01$ *** $p < .001$. Standard errors in parentheses. Note: Family structure, maternal education, school enrollment, employment status, residing outside of the parental home, and parental financial support were included as controls, but not significant for all groups except for White men, who were less likely to be in interracial relationships if they grew up with a single parent, and Black women, who were more likely to be in interracial relationships if their mothers had completed <HS degree.

Table 6. Likelihood of being in an interracial relationship for Hispanic and Asian respondents.

Variables	Hispanics				NH Asians						
	Men		Women		Men		Women				
	B	OR	B	OR	B	OR	B	OR			
Maternal closeness (W1)	0.12 (0.31)	1.13	0.12 (0.16)	1.13	0.45 (0.49)	1.57	-0.20 (0.21)	0.82			
Parental control scale (W1)	-0.60 (0.63)	0.55	1.11 (0.55)	3.03	* (1.11)	0.12 (1.11)	1.13 (0.86)	0.14 (0.86)	1.15		
Post-mobility relationship formation	-0.44 (0.55)	0.64	-0.45 (0.43)	0.64	0.08 (0.94)	1.08	1.34 (0.58)	3.82	*		
Relative exogamous group size (W1)	2.30 (0.67)	9.97	** (0.86)	3.10	22.20	*** (1.68)	2.81 (1.68)	16.60	1.40 (0.80)	4.01 (-)	
Immigrant generation status - 3rd gen; 1st gen	-0.42 (0.44)	0.66	-0.57 (0.45)	0.57	-0.69 (0.80)	0.50	-0.14 (0.42)	0.87			
2nd generation	-0.48 (0.46)	0.62	-0.29 (0.43)	0.75	-1.67 (0.71)	0.19	* (0.58)	0.31 (0.58)	1.36		
Marriage; Cohab	1.83 (0.54)	6.23	** (0.43)	1.30	3.67	** (1.05)	1.64 (1.05)	5.16	-0.28 (0.59)	0.76	
Sexual relationship	1.20 (0.51)	3.32	* (0.48)	1.32	3.74	** (1.15)	0.73 (1.15)	2.08	0.79 (0.55)	2.20	
Pregnancy	1.34 (0.91)	3.82	-0.86 (1.12)	0.42	5.01 (1.55)	150	** (1.20)	-3.25 (1.20)	0.04	*	
Age met partner; <19 years old; 19-22 years old	0.12 (0.40)	1.13	0.29 (0.30)	1.34	-1.10 (0.75)	0.33	0.13 (0.49)	1.14			
22+ years old	0.40 (0.49)	1.49	-0.44 (0.72)	0.64	-0.10 (1.08)	0.90	-1.59 (1.24)	0.20			
Homosexual relationship	-0.64 (1.09)	0.53	2.10 (0.90)	8.17	* (2.02)	1.28	3.60	-	-		
In an interracial rel. (W1)	2.12 (0.38)	8.33	*** (0.31)	1.38	3.97	*** (0.86)	0.81 (0.86)	2.25	1.14 (0.43)	3.13	**
Intercept	-3.67 (1.58)	0.03	* (1.37)	-5.25	0.01	*** (4.00)	-5.77	0.00	-1.33 (1.88)	0.26	
<i>n</i>	541		625		192		259				

* $p < .05$ ** $p < .01$ *** $p < .001$. Standard errors in parentheses. ¹Sample size varies for NH Asian women because none were in homosexual relationships. Note: family structure, maternal education, school enrollment, employment status, residing outside of the parental home, and parental financial support, were included as controls, but not significant with an exception for Asian women. Asian women who grew up with two biological parents and had a mother who attended some college in adolescence were more likely to be in an interracial relationship. Asian women who received any parental financial support in emerging adulthood were less likely to be in an interracial relationship.

CHAPTER 2
ADOLESCENT PROTECTIVE CONTEXTS FOR DEPRESSIVE SYMPTOMS IN
EMERGING ADULTHOOD BY RACE AND ETHNICITY

Abstract

Depressive symptoms are higher among racial and ethnic minorities. Many studies have evidenced associations between school disconnectedness and depressive symptoms by race and ethnicity in adolescence. Given that adolescents spend most of their time at home when they are not at school, it is important to understand how parents may moderate negative experiences at school, and how parent-child relationships may serve as a protective buffer for depressive symptoms in emerging adulthood. Factors contributing to mental health disparities among racial and ethnic groups are not well understood, as prior studies do not disaggregate how protective factors may vary by race and ethnicity. Data from Waves II and III of the National Longitudinal Study of Adolescent to Adult Health were used to examine how school disconnectedness was associated with depressive symptoms from adolescence to emerging adulthood, and how parent-child relationships moderated the associations. Differences among racial and ethnic groups were also assessed. I find that school disconnectedness in adolescence is associated with increased depressive symptoms in emerging adulthood, and that maternal warmth and communication moderates the association between school disconnectedness and depressive symptoms. Maternal relationship quality serves as an important protective factor for mental health in the transition to adulthood.

Keywords: Intergenerational relations; transition to adulthood; depression; family relationships; minorities; quantitative methods

INTRODUCTION

Disparities in mental health persist among racial and ethnic groups, with Blacks, Hispanics, and Asians reporting more depressive symptoms relative to Whites from adolescence to adulthood (Brown, 2003; Walsemann et al., 2011; Williams et al., 2012). Previous research suggests that potential mechanisms contributing to mental health disparities include disproportionate exposure to racism, discrimination, violence, and poverty (Clark et al., 1999; Office of the Surgeon General, 2001; Williams et al., 2005). But what are potential protective factors that lead to a reduction in depressive symptoms in the transition to adulthood? Factors contributing to mental health disparities among racial and ethnic groups are not well understood, as prior studies do not disaggregate how protective factors vary by race and ethnicity (Brown et al., 2003; Joyce & Early, 2014; Walsemann et al., 2011).

In this study, I examine how parent-child relationships moderate adolescent school experiences, and how parent-child relationships may be a protective buffer for depressive symptoms in emerging adulthood. I also examine how the protective role of parents varies across racial and ethnic groups. Using data from the National Longitudinal Study of Adolescent to Adult Health, I use the social support, stress, and buffering hypothesis (Cohen & Wills, 1985), life course theory (Elder, 1998) and the integrative model (García Coll et al., 1996) to assess racial and ethnic disparities in how parent-child relationships may moderate negative school experiences in adolescence, and be associated with improved or worsened mental health in the transition to adulthood. My basic hypothesis is that parent-child relationship quality will moderate the association between school disconnectedness and mental health, and serve as a protective buffer for depressive symptoms as adolescents transition to emerging adulthood. I expect the role of parent-child relationships as a protective buffer to vary by race and ethnicity.

First, school experiences among racial and ethnic groups are not uniform across racial and ethnic groups (Rosenbloom & Way, 2004), which can shape how parents respond to their children's experiences in school. While parents of racial and ethnic minorities may socialize their children to navigate experiences of racism and prejudice and schools (García Coll et al., 1996), parent-child relationship quality varies across racial and ethnic groups (Hardie & Seltzer, 2016; Turney & Kao, 2009).

This study contributes to the literature by examining how parent-child relationships may moderate negative experiences experienced in school, and shape depressive symptoms from adolescence to adulthood. The first specific contribution is understanding whether parent-child relationships in adolescence can serve as a protective buffer for depressive symptoms in emerging adulthood, confirming life course theory (Elder, 1998). The second contribution is understanding how parent-child relationships as a protective buffer may vary by racial and ethnic group. Given that experiences at school and at home are not uniform across racial and ethnic groups (Benner et al., 2012; Rosenbloom & Way, 2004; Turney & Kao, 2009), the second contribution provides a deeper understanding of how parents may serve as a more important protective group for various racial and ethnic groups.

This study focuses on two developmental stages of the life course: adolescence and emerging adulthood. Adolescence is an important developmental stage of the life course that sets the stage for health behaviors in the rest of adulthood (Johnson et al., 2011). Addressing mental health in adolescence is particularly important because it is associated with decreased behavioral and emotional problems in adulthood (Kutcher & Venn, 2008). In adolescence, two important contexts include the school and home contexts (Epstein, 2001; García Coll et al., 1996; Turney & Kao, 2009). Schools are an important institutional context to study because a majority of

adolescents spend most of their time in school, and it is a setting that can contribute to healthy development in adulthood (Benner et al., 2012; Dessel, 2010). In the home context, parents play an important role by serving as an important source of support, particularly during adolescence (Darling & Steinberg, 1993; Ozbay et al., 2007; Steinberg, 2001).

Emerging adulthood is typically around the ages of 18-25 and is a period “in-between” adolescence and adulthood, where identity exploration takes place (Arnett, 2000). The transition to adulthood is a particularly difficult period of the life course, where emerging adults may face many stressors – finishing high school, finding employment, being in debt, managing finances, and living independently or cohabiting (Addo, 2014; Settersten & Ray, 2010), which may undermine their mental health (Bonnie & Breiner, 2015). During adolescence and emerging adulthood, depressive symptoms are higher among Blacks and Hispanics relative to Whites and Asians (Harris et al., 2006). Differences by gender indicate that depression tends to be higher among girls than boys (Harris et al., 2006).

Theoretical Frameworks Guiding the Study

I expect parent-child relationships to buffer adolescents’ experiences in schools and shape their mental health in emerging adulthood. Therefore, I draw from the social support and stress buffering hypothesis (Cohen & Wills, 1985), life course theory (Elder, 1998), and the integrative model (García Coll et al., 1996) to shape my hypotheses.

The social support and stress buffering model (Cohen & Wills, 1985) argues that social support, or “family, friends, neighbors, and community members that is available in times of need to give psychological, physical, and financial help” can buffer stressful experiences and lead to improved mental and physical health (National Cancer Institute, 2018). In particular, relationship quality, measured through perceptions of emotional support and love, has been

associated with decreased depressive symptoms relative to the size of the social network (Southwick et al., 2005). I use this model to test whether parent-child relationships can serve as a protective buffer for negative school experiences in adolescence, and be associated with decreased depressive symptoms in emerging adulthood.

My expectation that experiences at school and with parents in adolescence would shape mental health in emerging adulthood is due to life course theory. From the life course theory (Elder, 1998), I draw on conceptual approaches, including *life-span development* (human development is a life-long process) and *linked lives* (interpersonal relationships influence developmental outcomes).

The third theoretical framework I draw from that shapes my expectation why parent-child relationships would serve as a protective buffer and vary by racial and ethnic groups is the integrative model (García Coll et al., 1996). This model posits that factors such as race and ethnicity shape exposure to racism, prejudice, discrimination, and oppression, which create various types of segregated environments: residential, economic, social, and psychological. These forms of segregation can also occur in schools, shaping youths' emotional development. Parents of racial and ethnic minorities may socialize their children to navigate experiences of racism and prejudice in schools (García Coll et al., 1996), so parent-child relationships among racial and ethnic minorities may be particularly more salient for mental health compared to White youth.

Conceptual Model

The conceptual model for the study is shown in Figure 1. School disconnectedness in adolescence is examined to understand its association with depressive symptoms in emerging adulthood. Parent-child relationships are examined as a moderating factor for school

disconnectedness to shape depressive symptoms. Variation by race and ethnicity is explored, to understand how parent-child relationships may be more protective for some groups rather than other groups.

School Disconnectedness – Differences across Race and Ethnicity

School connectedness, a primary construct of this study, is defined as “the extent to which students feel personally accepted, respected, included, cared for, close to, and supported by others in the school environment” (Joyce & Early, 2014). School disconnectedness, refers to the opposite of school connectedness - students who do not feel like a part of their school (Bonny et al., 2014). Racial, ethnic, and gender differences indicate that Black and Hispanic boys, as well as White girls, have strong ethnic identities that are associated with positive attitudes towards school, with White students generally having the most positive attitudes towards school (Booth et al., 2014). School connectedness is associated with decreased depressive symptoms (LaRusso et al., 2008; Thapa et al., 2013; van Voorhees et al., 2008). Using Waves I and II of Add Health, van Voorhees and colleagues find that adolescents who feel like a part of their school, feel close to their classmates, feel socially accepted, and feel happy at school are less likely to develop a risk of a depressive episode (2008).

Schools are a microcosm of society at large, and are institutions in which racial and ethnic minorities experience inequality (Dessel, 2010). Racial and ethnic groups in the United States have unique experiences that account for varying levels of stratification and group positioning (Blumer, 1957; Bonilla-Silva, 2003), based on historical and demographic trends and legacies. White Americans have historically been at the top of the status hierarchy (Bonilla-Silva, 2003). Blacks in the United States experience historical legacies of slavery and Jim Crow era segregation that sediment their status on the bottom of the racial hierarchy (Bonilla-Silva,

2003; Oliver & Shapiro, 1995), and Hispanics face a hostile context of reception (Suárez-Orozco & Suárez-Orozco, 2001). Asians, on the other hand, are seen as model minorities, or “honorary Whites,” (Bonilla-Silva, 2003), in part due to the hyper-selectivity of migrants that arrived after the passage of the Hart-Cellar Act of 1965; however, they are still treated as perpetual foreigners and face barriers to acculturation in the United States (Benner & Kim, 2009; Kim, 1999; Lee & Zhou, 2015). Literature also documents variation in the experiences of racial and ethnic minorities in schools. White adolescents perceive more positive interactions with schools and teachers relative to Black adolescents (Mitchell et al., 2009). Black students report stereotype threat (Blascovich et al., 1999; Steele & Aronson, 1995) and fears of “acting White” (Fordham & Ogbu, 1986). Hispanics experience low academic expectations from their teachers (Schwartz et al., 2014), and Asians face microaggressions and pressure to succeed academically (Lee & Zhou, 2015). These stereotypes may reinforce differences in how racial and ethnic minorities experience the school context. Further, the racial and ethnic composition of the school may reinforce negative feelings towards school.

Along with students’ perceptions towards schools, teachers also play an important role in adolescents’ school experiences. Relationships with teachers are important because teachers stand outside of parents and peers, and can transmit adult advice (Fredriksen & Rhodes, 2000). Teacher support is defined as “the extent to which teachers are supportive, responsive, and committed to students’ well-being” (Wang, 2009; p. 242). Teacher support is associated with decreased depressive symptoms in adolescence (Murray & Greenberg, 2000; Reddy et al., 2003; Wang, 2009). Differences by race and ethnicity in students’ relationships with teachers indicate that Black and Hispanic students perceive unequal treatment, while Asian students perceive preferential treatment. Black adolescents report that they were more likely to be followed by

police, face negative comments from teachers, and feel like they do not belong (Anderman, 2002; Rosenbloom & Way, 2004). Hispanics perceive low expectations from teachers, and that their teachers do not care about them (Rosenbloom & Way, 2004). Asians, on the other hand, report receiving extra guidance and support from teachers and counselors, but report being verbally attacked, teased, and called names by peers (Rosenbloom & Way, 2004).

Parent-Child Relationships in Adolescence – Differences by Race and Ethnicity

This study seeks to understand how parent-child relationships serve as a protective buffer for depressive symptoms in the transition to adulthood. Parents are the primary socializing agents for their children. Parental socialization is the process by which parents manage, monitor, instruct, and participate in their children's activities (Parke & Buriel, 1998). Parent-child relationships that are secure are associated with decreased depressive symptoms (Kenny & Sirin, 2006); Laible et al., 2004; Moretti & Peled, 2004). Parents can moderate the negative experiences in school that adolescents face, by providing emotional support to children when they are stressed (Cooper & McLoyd, 2011; Hughes et al., 2006). The primary measure of parent-child relationships in this study is parental warmth and communication, a form of emotional social support. Parental warmth includes “physical, verbal, and symbolic” behaviors that demonstrate “warmth, affection, care, comfort, concern, nurturance, support, or simply love toward a child” (Suchman et al., 2007; p. 1). Parental warmth and communication are linked to adolescent social development (Frabutt et al., 2002). In this study, I focus on maternal warmth and communication, because 41% of the sample did not grow up with two biological parents in adolescence.

Previous literature has documented differences in parent-child relationships among White, Black, Hispanic, and Asian youth. White, middle-class parents tend to have authoritarian

parenting styles, which encourages independence among children and emotional detachment (Julian et al., 1994). White mothers also report the least parenting stress relative to Black, Hispanic, and Asian mothers, due to differences in parenting values, with minority parents reporting more authoritarian parenting styles relative to White mothers (Nomaguchi & House, 2013).

Black parents tend to socialize their children on racist and discriminatory experiences (Hughes et al., 2006), and discuss three different experiences: Black history, understanding the status of being a minority and how to prepare for discrimination, and understanding how to adapt to the mainstream dominant culture (Boykin and Toms, 1985; Hughes & Chen, 1997). In particular, Black mothers who were married, more highly educated, and older in age were more likely to discuss racial socialization with their children compared to Black fathers who were single, less educated, and younger in age (Thornton et al., 1990). Studies find that Black adolescents whose mothers report a moderate level of racial socialization messages are more likely to report the highest maternal warmth and communication, relative to mothers who report a low or high level of racial socialization messages (Frabutt et al., 2002). Black parents also report authoritarian parenting styles (Nomaguchi & House, 2013; Tamis-LeMonda et al., 2008), but also report greater parental support, warmth, and communication (Julian et al., 1994; Hill, 1995).

Hispanic parents tend to emphasize *familismo*, or strong family relationships, characterized by parental warmth (Germàn et al., 2009, Vega 1990), and report more authoritarian parenting relative to White parents (Varela et al., 2004). However, tensions between first and second-generation immigrants may persist in retaining parental cultural values (Foner & Dreby, 2011; Portes & Rumbaut, 2001). In addition, language barriers may be more

prevalent among first-generation immigrant parents - Latin American parents who did not speak the same language as their parents were more likely to report lower closeness and perceived support, as well as fewer discussions with parents (Tseng & Fuligni, 2000).

Among Asians, intergenerational conflict may occur due to competing cultural values as well as language barriers due to nativity status (Hsin & Xie, 2014; Tseng & Fuligni, 2000). East Asian and Filipino American children were more likely to report lower levels of closeness and discussions on school and personal problems if they did not speak the same language as their parents (Tseng & Fuligni, 2000). Asian parents may adopt a success frame, that places pressure on children to succeed academically (Zhou & Lee, 2017), but may be due in part to the hyperselectivity of Asian immigrants in the United States.

Research has documented racial and ethnic differences in parental involvement in discussions of school, with parents of minorities and immigrants reporting fewer discussions than native-born White parents due to language barriers (Griffith, 1998; Lee & Bowen, 2006; Turney & Kao, 2009). Immigrant parents may have difficulties in knowing expectations of school involvement, and thus be less involved in school (Turney & Kao, 2009). Additional parental measures associated with depressive symptoms include parental socioeconomic status and family structure. Higher parental education and family income are associated with decreased depressive symptoms (Goodman et al., 2001). Family structure is also associated with increased depressive symptoms among children in the National Longitudinal Survey of Youth; children who grew up in single-parent households compared to two-biological parent family households have increased depressive symptoms (Carlson & Corcoran, 2001).

Parents as a Protective Buffer in the School Context

Parental involvement in school can affect child wellbeing through socialization, social control, and intervention (Domina, 2005). Parents can provide support at home if children face difficulties at school (Bub et al., 2007; Lareau, 2003; Nokali et al., 2011). Parental involvement in children's school experiences has been associated with increased social skills and declines in problem behaviors (Cheung & Pomerantz, 2011; Domina, 2005; Hill et al., 2004; Nokali et al., 2011).

Hypotheses

This study sheds light on how parent-child relationships may buffer school experiences and shape depressive symptoms over the life course. I test the following hypotheses: the stress buffering hypothesis (Cohen & Wills, 1985), life course theory (Elder, 1998), and the integrative model (García-Coll et al., 1995).

1. Testing life course theory (Elder, 1998), I expect the association of school disconnectedness to be positively associated with depressive symptoms in emerging adulthood.
2. Testing the stress buffering hypothesis (Cohen & Wills, 1985), I expect mother-child relationship quality to moderate the association between school disconnectedness and depressive symptoms.
3. Testing the integrative model (García-Coll et al., 1995), I expect the associations of maternal relationship quality as a moderator for depressive symptoms to vary by race and ethnicity, with greater importance for Black youth, followed by White youth, and then Hispanic and Asian youth.

METHOD

Data

I use data from the National Longitudinal Study of Adolescent to Adult Health (Add Health) to assess whether school disconnectedness is associated with depressive symptoms in emerging adulthood, and whether maternal relationship quality moderates the association of school disconnectedness and depressive symptoms. Add Health is a nationally representative, school-based sample of 20,748 adolescents who were in the 7th-12th grades in Wave I. Wave I was administered from 1994-1995, Wave II from 1995-1996, and Wave III from 2001-2002.

I focus this study on Waves II (adolescence) and III (emerging adulthood). The number of respondents who completed Waves II and III with valid sampling weights was 10,828 (Chen & Chantala, 2014). I further reduce the analytic sample by excluding respondents who were Native American or Other races due to small sample sizes ($n=132$). I also exclude respondents who have missing data on perceiving that the teacher cares about them ($n=4$). Finally, I exclude respondents who have missing data on individual control variables, such as the age at the time of interview ($n=4$). The analytic sample yields 9,766 respondents.

Dependent Variable: Depressive Symptoms in Emerging Adulthood

The primary dependent variable in Wave III is the scaled depressive symptom score of the respondent ($\alpha=.80$). This is a nine-item, consolidated version of the CES-D scale (Radloff, 1977). The respondent was asked whether the following was true within the past seven days at the time of interview: being bothered by things that don't usually bother you, not being able to shake off the blues, not feeling as good as other people, having trouble keeping mind on tasks being done, being too tired to do things, enjoying life (which was reverse-coded), being sad, and

feeling that people disliked you. Answers ranged from never or rarely (0) to most of the time or all of the time (3).

Independent Variables

The primary independent variables in this study include school disconnectedness, maternal relationship quality in adolescence, and race and ethnicity.

School Disconnectedness in Adolescence

School disconnectedness, or not feeling connected to school, was a scale of the following six items that ranged from strongly agree (1) to strongly disagree (5) in Wave II ($\alpha=.77$): you feel close to the people at your school, you feel like a part of your school, you are happy to be at your school, you feel safe in your school, and you feel that the teachers at your school treat students fairly. In the school disconnectedness scale, I included an additional measure of the respondent's perception of teachers caring in the school disconnectedness measure from the following question asked in Wave II: how much do you feel that teachers care about you? Answers ranged from not at all (1) to very much (5). A greater value of school disconnectedness meant that the respondent did not feel connected to school.

Maternal Warmth and Communication in Adolescence

The primary measure of maternal relationship quality in adolescence was maternal warmth and communication. *Maternal warmth and communication* is a scaled measure of the following items ($\alpha=.83$): how close do you feel to your mother, your mother is warm and loving towards you, your mother encourages you to be independent, when you do something wrong that is important, your mother talks about it with you and helps you understand why it is wrong, you are satisfied with the way you and your mother communicate with each other, and overall, you are satisfied with your relationship with your mother. Items ranged from not close at all (1) to

extremely close (5) for maternal closeness, strongly disagree (1) to strongly agree (5) for the remaining items.

Race and Ethnicity

Race and ethnicity includes White, Black, Hispanic, and Asian respondents, based on Add Health's constructed race variable, and whether the respondent identified as Hispanic (Udry et al., 2003).

Control Variables

Individual-level controls include gender, immigrant generation status, and the respondent's age. *Gender* is a dichotomous variable, with 1 as male and 2 as female. *Immigrant generation status* includes first, second, and third-generation immigrants. Respondents born outside of the United States are classified as first-generation immigrants. Respondents whose parent(s) are born outside of the United States are second-generation immigrants. Respondents with both parents born in the United States are third-generation immigrants. The *respondent's age* is the age of the respondent at the time of interview in Wave III, constructed by subtracting the respondent's year of birth from the year of interview.

Family-level controls include parental education, family structure, and household income. *Parental education* is the highest educational attainment of either parent in Wave II and includes the following categories: less than high school, high school, some college, college and more, and don't know. *Family structure* in Wave II is composed of four categories from the household roster: two biological parents, two parents, a single parent, and other.

Analytic Approach

This study examines the role of school disconnectedness in shaping depressive symptoms in emerging adulthood, how maternal relationship quality moderates the role of school

disconnectedness in shaping depressive symptoms, and how these associations vary by racial and ethnic group. First, I conduct descriptive statistics of the primary measures and control variables. Then, I examine variation in the primary explanatory variables of interest by race and ethnicity. To determine the linkages between school disconnectedness, race and ethnicity, and the moderating role of maternal relationship quality, and depressive symptoms, I run OLS regressions. First, I run analyses for the overall sample, and include interaction terms of school disconnectedness and race and maternal warmth and communication and race, to assess whether differences in school disconnectedness and maternal warmth and communication are significantly different for minority respondents compared to White respondents. Then, I run separate analyses by race and ethnicity, because I expect the role of maternal warmth and communication on depressive symptoms to vary by racial and ethnic group. I use longitudinal weights to make the results nationally representative for those who completed Waves II and III. In order to account for missing data, I use multiple imputation with chained equations with 20 datasets in Stata 15.0 (Royston, 2011). I impute the variable maternal warmth and communication ($n=471$).

RESULTS

Descriptive Statistics for the Overall Sample

Table 1 shows descriptive statistics for the analytic sample. School disconnectedness was relatively low for all students, meaning that most students felt connected to their schools. Maternal warmth and communication was also relatively high for the sample of adolescents. Approximately 50% of the sample was female. A majority of the sample was NH White (69%), followed by NH Black (15%), Hispanic (12%), and NH Asian (4%). A majority of the sample were second and third-generation immigrants (95%). The average age of the respondent was 22

years old. Most of the respondent's parents completed at least a high school degree or GED, while 13% did not complete high school. Most respondents grew up with two biological parents (49%), followed by two parents (12%), single parents (17%), and other family arrangements (21%).

[Insert Table 1 here]

Differences by Race and Ethnicity

Table 2 shows means and significant differences in the main predictors and depressive symptoms by race and ethnicity. School disconnectedness was highest among Black adolescents, followed by Hispanic, White, and Asian students. Compared to White and Asian adolescents, Black adolescents felt significantly more disconnected to schools. Maternal warmth and communication in adolescence was highest among Black adolescents, followed by Hispanic, White, and Asian adolescents. Differences in maternal warmth and communication significantly varied by race and ethnicity. Black adolescents reported significantly higher maternal warmth and communication relative to White, Hispanic, and Asian adolescents, while Asian adolescents reported the lowest maternal warmth and communication relative to all other racial and ethnic groups. Depressive symptoms in emerging adulthood were significantly higher among racial and ethnic minority groups relative to Whites, and were highest among Black, followed by Hispanic, Asian, and White emerging adults.

[Insert Table 2 here]

Factors Shaping Depressive Symptoms for the Overall Sample

Table 3 shows multivariate analyses that estimate the associations of school disconnectedness, race and ethnicity, maternal warmth and communication, and depressive symptoms in emerging adulthood. I estimate four models. The baseline model includes school

disconnectedness and race and ethnicity, the second model introduces maternal warmth and communication, the third model includes all control variables, and the fourth model includes the interaction of school disconnectedness and maternal warmth and communication. I also conducted interactions of school disconnectedness and race, as well as maternal warmth and communication and race, to examine whether the primary predictors significantly varied from White respondents relative to racial and ethnic minority respondents.

In Model 1, school disconnectedness in adolescence, as well as being Black, Hispanic, or Asian, are significantly associated with increased depressive symptoms in emerging adulthood. In Model 2, maternal warmth and communication is significantly associated with decreased depressive symptoms in emerging adulthood. With all controls added in Model 3, school disconnectedness and being a racial and ethnic minority remain significantly associated with increased depressive symptoms in emerging adulthood, while maternal warmth and communication is negatively associated with decreased depressive symptoms in emerging adulthood. With the introduction of the school disconnectedness and maternal warmth and communication interaction term in Model 4, school disconnectedness and being a racial and ethnic minority was significantly associated with increased depressive symptoms, confirming Hypothesis 1, the life course theory (Elder, 1998). Maternal warmth and communication was no longer significantly associated with depressive symptoms. However, I did find that the interaction of school disconnectedness and maternal warmth and communication was significantly associated with a 0.03-point decline in depressive symptoms. In other words, adolescents who felt more disconnected to their schools and reported higher maternal warmth and communication reported lower depressive symptoms in emerging adulthood. This confirms Hypothesis 2, the stress buffering hypothesis (Cohen & Wills, 1985).

I interacted school disconnectedness and race and ethnicity, and did not find significant associations. In other words, I did not find that school disconnectedness was more or less associated with increased or decreased depressive symptoms for racial and ethnic adolescents, relative to White adolescents. Similarly, I did not find significant associations of maternal warmth and communication and race and ethnicity, meaning that maternal warmth and communication was not more or less important for White adolescents relative to racial and ethnic minority respondents.

Although not central to the study, some of the control variables were significantly associated with depressive symptoms. These include the age of the respondent in Wave III, parental education in Wave II, and family structure in Wave II. Age and parental education were associated with decreased depressive symptoms, while growing up in a family arrangement other than two biological parents, two parents, or a single parent was associated with increased depressive symptoms.

[Insert Table 3 here]

Factors Shaping Depressive Symptoms by Race and Ethnicity

Central to this study is understanding how protective factors for depressive symptoms vary by race and ethnicity. Table 4 shows the results of the likelihood of being depressed among White and Black adolescents. Model 1 shows the basic association between school disconnectedness and depressive symptoms in emerging adulthood, Model 2 includes maternal warmth and closeness, Model 3 includes control variables, and Model 4 includes the interaction of school disconnectedness and maternal warmth and communication.

Among White adolescents, school disconnectedness was associated with increased depressive symptoms in emerging adulthood in Model 1. Adding maternal warmth and

communication, I found that maternal warmth and communication was associated with a 0.06-point reduction in depressive symptoms in Model 2. With the addition of control variables in Model 3, school disconnectedness was associated with a 0.10-point increase in depressive symptoms, while maternal warmth and communication was associated with a 0.06-point decrease in depressive symptoms. After including the interaction of school disconnectedness and maternal warmth and communication included in Model 4, only school disconnectedness remains significantly associated with increased depressive symptoms in emerging adulthood. Therefore, I do not find evidence to support Hypothesis 2, the stress buffering model, but I do find evidence to support Hypothesis 1, life course theory (Elder, 1998). Control variables that are significantly associated with increased depressive symptoms include being female, a first-generation immigrant, and having a parent with at least a high school degree.

Among Black adolescents, different patterns emerged. In Models 1, 2, and 3, adolescents who reported feeling less connected to school reported higher depressive symptoms in emerging adulthood, supporting Hypothesis 1. Maternal warmth and communication was associated with decreased depressive symptoms in emerging adulthood, but did not reach significance at conventional levels. With the introduction of the interaction term of school disconnectedness and maternal warmth and communication in Model 4, neither school disconnectedness nor maternal warmth and communication were significantly associated with depressive symptoms. Although the interaction term, school disconnectedness and maternal warmth and communication, was negatively associated depressive symptoms, it did not reach significance at conventional levels. Therefore, I did not find evidence to support Hypothesis 2, the stress buffering hypothesis. Other factors that were significantly associated with depressive symptoms were parental education and family structure. Black adolescents whose parents completed college or more reported lower

depressive symptoms, while those who grew up in a family structure other than two biological parents, two parents, or a single parent reported higher depressive symptoms.

[Insert Table 4 here]

Table 5 shows factors associated with depressive symptoms among Hispanics and Asians in a stepwise manner. Among Hispanic adolescents, school disconnectedness was associated with increased depressive symptoms in the primary model. With the addition of maternal warmth and communication in Model 2, school disconnectedness remained significantly associated with increased depressive symptoms, while maternal warmth and communication was associated with decreased depressive symptoms, but was only significant at the $p < 0.10$ -level. With the addition of control variables in Model 3, school disconnectedness and maternal warmth and communication were significantly associated with depressive symptoms – school disconnectedness was associated with a 0.07-point increase in depressive symptoms, while maternal warmth and closeness was associated with a 0.06-point decrease in depressive symptoms, confirming Hypotheses 1 and 3. With the addition of the interaction term of school disconnectedness and maternal warmth and communication in Model 4, school disconnectedness remained significantly associated with an increase in depressive symptoms. The interaction of school disconnectedness and maternal warmth and communication was associated with decreased depressive symptoms, confirming Hypothesis 2, the stress buffering hypothesis, but this was only weakly significant. Significant control variables included gender, parental educational background, and family structure. Women were more likely to report higher depressive symptoms, while those whose parents completed a high school degree or higher, and those who grew up with two parents were less likely to report depressive symptoms in emerging adulthood.

Among Asians, I did not find significant associations among school disconnectedness, maternal warmth and communication, and the interaction of school disconnectedness and maternal warmth and communication and depressive symptoms. School disconnectedness was associated with increased depressive symptoms in Models 1, 2, and 3, but was not significant at conventional levels. Maternal warmth and communication was associated with decreased depressive symptoms, across all the models, but was not also insignificant at conventional levels. Finally, the interaction of school disconnectedness and maternal warmth and communication was associated with increased depressive symptoms, though also not significant. Although not central to the study, I find that Asian adolescents who grew up with parents whose highest degree is high school report higher depressive symptoms in emerging adulthood. Therefore, I do not find evidence to support Hypotheses 1-3 among Asian adolescents.

[Insert Table 5 here]

CONCLUSION

Racial and ethnic mental health disparities persist. Given that the United States is projected to become majority minority by 2043 (Lichter, 2013), it is important to understand factors associated with improved mental health. Specifically, which factors are associated with *decreased* depressive symptoms over the life course? Given that schools and parents are primary socialization agents for adolescents, I sought to understand how these contexts were protective for different racial and ethnic groups as adolescents transitioned to emerging adults.

Using the National Longitudinal Study of Adolescent to Adult Health (Add Health), I examined the roles of school disconnectedness, maternal relationship quality on depressive symptoms, and how maternal relationship quality would moderate the association between school disconnectedness and depressive symptoms in emerging adulthood. Descriptively, I found

that depressive symptoms were higher among Black, Hispanic, and Asian emerging adults relative to White emerging adults. I also found that maternal relationship quality, measured through maternal warmth and communication, as well as school disconnectedness, was highest among Black adolescents. I also found that school disconnectedness in adolescence was associated with increased depressive symptoms in emerging adulthood, and that maternal warmth and communication was associated with decreased depressive symptoms in emerging adulthood. Finally, I found that maternal warmth and communication moderated the associated between school disconnectedness and depressive symptoms.

From this study, two general themes emerged, that confirmed the life course theory (Elder, 1998), stress buffering hypothesis (Cohen & Wills, 1985), and partially confirmed the integrative model (García-Coll, 1985). The first theme is that negative school experiences in adolescence can have a lasting impact on mental health into emerging adulthood. Specifically, school disconnectedness, which included items such as not feeling close to people at school, and not feeling like teachers care about you, was consistently associated with increased depressive symptoms among the entire sample. When the analyses were conducted separately by race and ethnicity, school disconnectedness was associated with increased depressive symptoms among White, Black, and Hispanic emerging adults. While prior studies have found associations of school connectedness and depressive symptoms among adolescents (Joyce & Early, 2014; Goosby & Walsemann, 2012), this study extends the literature by finding that school connectedness continues to have an impact in emerging adulthood, confirming life course theory (Elder, 1998).

Why might school experiences in adolescence continue to have impacts on mental health in emerging adulthood? Adolescents spend most of their time in school, which is a place where

socialization and identity formation takes place, and a place that may provide a foundation for their interactions as emerging adults. Adolescents who do not feel connected to their schools may feel like socially isolated, and may internalize their experiences of not belonging as they transition to adulthood, which is associated with depression (Saluja et al., 2004). Also, what to make of the finding that school disconnectedness was not significantly associated with increased depressive symptoms among Asian adolescents? Frequently noted in the literature is pressure Asians face to succeed in schools (Hsin & Xie, 2014; Lee & Zhou, 2015), which has been seen as a risk factor for depression (Arat, 2015). It may be possible that Asian adolescents who feel disconnected from school face less pressure to succeed academically, which may be associated with better mental health. Overall, this finding confirms the importance of a positive, supportive school environment in middle and high schools for mental health in the transition to adulthood.

The second theme from this study was that maternal relationship quality in adolescence was a protective factor for mental health for emerging adults, confirming the stress buffering hypothesis (Cohen & Wills, 1985). Maternal warmth and communication moderated the association between school disconnectedness and depressive symptoms. In other words, adolescents who reported high school disconnectedness and high maternal warmth and communication reported fewer depressive symptoms in emerging adulthood. This finding provides evidence that maternal relationship quality is important beyond adolescence, regardless of the greater autonomy that emerging adults may have. In addition, I found that maternal warmth and communication was independently associated with decreased depressive symptoms among White and Hispanic adolescents.

Due to the integrative model (García-Coll et al., 1995), I expected the role of maternal relationship quality to matter more for racial and ethnic minorities relative to Whites, who are

facing racial and ethnic discrimination. However, I only found that maternal warmth and communication mattered among Hispanic adolescents, but not among Black and Asian adolescents. Among Black adolescents, parental education, or a proxy for social class, played an important role in shaping depressive symptoms – Black adolescents whose parents' highest educational attainment was college or more were less likely to be depressed. Highly-educated and middle-class Black parents are more likely to engage in racial socialization (Thornton et al., 1990; Lareau, 2002) which may prepare their children to handle racism and be less depressed in emerging adulthood. What may be explaining null results among Asians are that parent-child relationships among second-generation immigrants may be marked with cultural conflict between first and second-generation parents and children. In addition, middle-class Asian parents may place pressure on their children to succeed academically, which may possibly lead to greater tension on the parent-child relationship (Foner & Dreby, 2011; Portes & Rumbaut, 2001; Hsin & Xie, Lee & Zhou, 2015). Descriptively, Asians in this study reported the lowest levels of maternal warmth and communication. A limitation of this study is that the maternal warmth and communication measure does not accurately capture racial socialization, which may play an important role in mental health among minority adolescents (Frabutt et al., 2002). Further research should unpack how maternal warmth and communication operates among minority groups.

This paper is not free from limitations. First, school disconnectedness may not capture all aspects of the adolescent school experience that may be associated with depression. For example, school bullying experiences and social isolation may also contribute to depressive symptoms over the life course. In addition, the causal direction of the mother-child relationship is difficult to disentangle – children who are more likely to be depressed may be receiving more maternal

warmth and communication. Finally, I do not examine the role of paternal warmth and communication, which may also be associated with mental health. Future research should examine the mechanisms through which maternal warmth and communication moderate negative experiences in school, and examine how race, ethnicity, and gender shape depressive symptoms. In sum, I find that mother-child relationships serve as an important protective buffer for mental health from adolescence to emerging adulthood across all racial and ethnic groups.

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Figure 1. *Conceptual model*

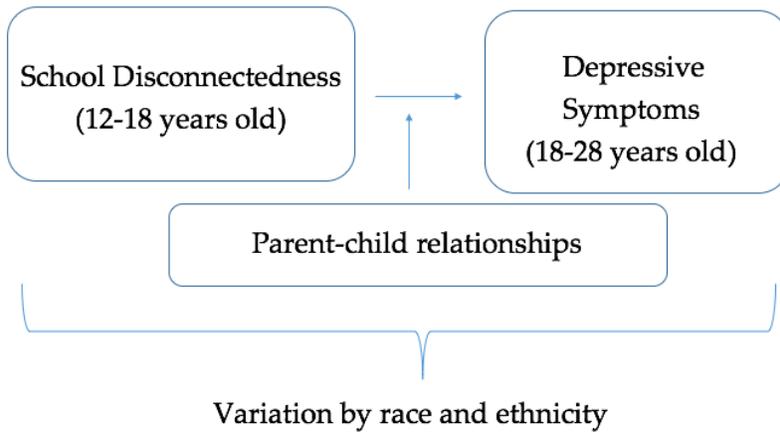


Table 1. Summary Statistics for Analytic Sample

Variable	Mean	SD	Range	α
School disconnectedness in Wave II^a	1.31	0.02	1 to 5	0.77
Maternal warmth and communication in Wave II^b	4.22	0.01	1 to 5	0.83
Gender - female	0.50	0.01	1 to 2	
Race/ethnicity			1 to 4	
NH White	0.69	0.03		
NH Black	0.16	0.02		
Hispanic	0.12	0.02		
NH Asian	0.04	0.01		
Immigrant generation status			1 to 3	
1st generation	0.05	0.01		
2nd generation	0.51	0.01		
3rd generation	0.44	0.02		
Age of the respondent in Wave III	21.62	0.11	18 to 28	
Parental education in Wave II			1 to 5	
Less than HS	0.13	0.01		
HS grad or GED	0.34	0.01		
Some college	0.19	0.01		
Completed college+	0.27	0.02		
Don't know	0.08	0.00		
Family structure in Wave II			1 to 4	
Two biological parents	0.49	0.01		
Two parents (step or bio)	0.12	0.00		
Single parent	0.17	0.01		
Other family arrangement	0.21	0.01		
Depressive symptoms scale in Wave III	0.50	0.01	0 to 3	0.80
<i>n</i>			9,750	

^aSchool disconnectedness included the following 6 items: you feel close to people at school, you feel like a part of your school, you are happy to be at your school, you feel that your teachers care about you, the teachers at your school treat students fairly, and you feel safe in your school, with a higher score reflecting the more the respondent disagrees to the statements.

^bMaternal warmth and communication was a scale of items that ranged from strongly agree to strongly disagree: most of the time, your mother is warm and loving towards you; your mother encourages you to be independent; when you do something wrong that is important, your mother talks about it with you and helps you understand why it is wrong; you are satisfied with the way you and your mother communicate with each other; overall, you are satisfied with your relationship with your mother.

Table 2. *Descriptives of means for main predictors by race and ethnicity*

	NH White	NH Black	Hispanic	NH Asian
School disconnectedness in Wave II	1.29	1.38 ^a	1.35	1.25 ^c
Maternal warmth and communication in Wave II	4.21	4.34 ^a	4.20 ^b	4.07 ^{abc}
Depressive symptoms in Wave III	0.47	0.56 ^a	0.57 ^b	0.56 ^c
<i>n</i>	5,430	2,063	1,491	708

^a - significant differences from NH Whites; ^b - significant differences from NH Blacks; ^c - significant differences from Hispanics at $p < 0.05$ -level

Table 3. OLS Regressions Predicting Depressive Symptoms in Emerging Adulthood

Variable	Model 1		Model 2		Model 3		Model 4	
School disconnectedness (W2)	0.11	***	0.09	***	0.09	***	0.21	***
	(0.01)		(0.01)		(0.01)		(0.05)	
Race/ethnicity - rel. to NH White; NH Black	0.08	***	0.09	***	0.07	***	0.07	***
	(0.02)		(0.02)		(0.02)		(0.02)	
Hispanic	0.09	***	0.09	***	0.07	**	0.07	**
	(0.02)		(0.02)		(0.02)		(0.02)	
NH Asian	0.10	***	0.09	**	-0.08	**	0.08	**
	(0.03)		(0.03)		(0.03)		(0.03)	
Maternal warmth and communication (W2)			-0.06	***	-0.05	***	-0.01	
			(0.01)		(0.01)		(0.02)	
School disconnectedness x Maternal warmth and communication (W2)					-		-0.03	*
					-		(0.01)	
Gender - female					0.09		0.09	
					(0.01)		(0.01)	
Age of the respondent (W3)					-0.01	**	-0.01	**
					(0.00)		(0.00)	
Parental education (W2) - rel. to <HS; HS grad or GED					-0.07	***	-0.07	***
					(0.02)		(0.02)	
Some college					-0.08	***	-0.08	***
					(0.02)		(0.02)	
Completed college+					-0.09	***	-0.09	***
					(0.02)		(0.02)	
Don't know					-0.06	*	-0.06	*
					(0.03)		(0.03)	
Family structure (W2) - rel. to two bio parents; two parents					0.00		0.00	
					(0.02)		(0.02)	
Single parent					0.02		0.02	
					(0.02)		(0.02)	
Other family arrangement					0.05	**	0.05	**
					(0.02)		(0.02)	
Constant	0.33	***	0.60	***	0.75	**	0.56	***
	(0.01)		(0.05)		(0.10)		(0.12)	
F statistic	41.34		44.23		23.42		21.98	
Prob > F	0.00		0.00		0.00		0.00	
<i>n</i>					9,750			

Figure 2. *Predictive Margins of Depressive Symptoms in Emerging Adulthood*

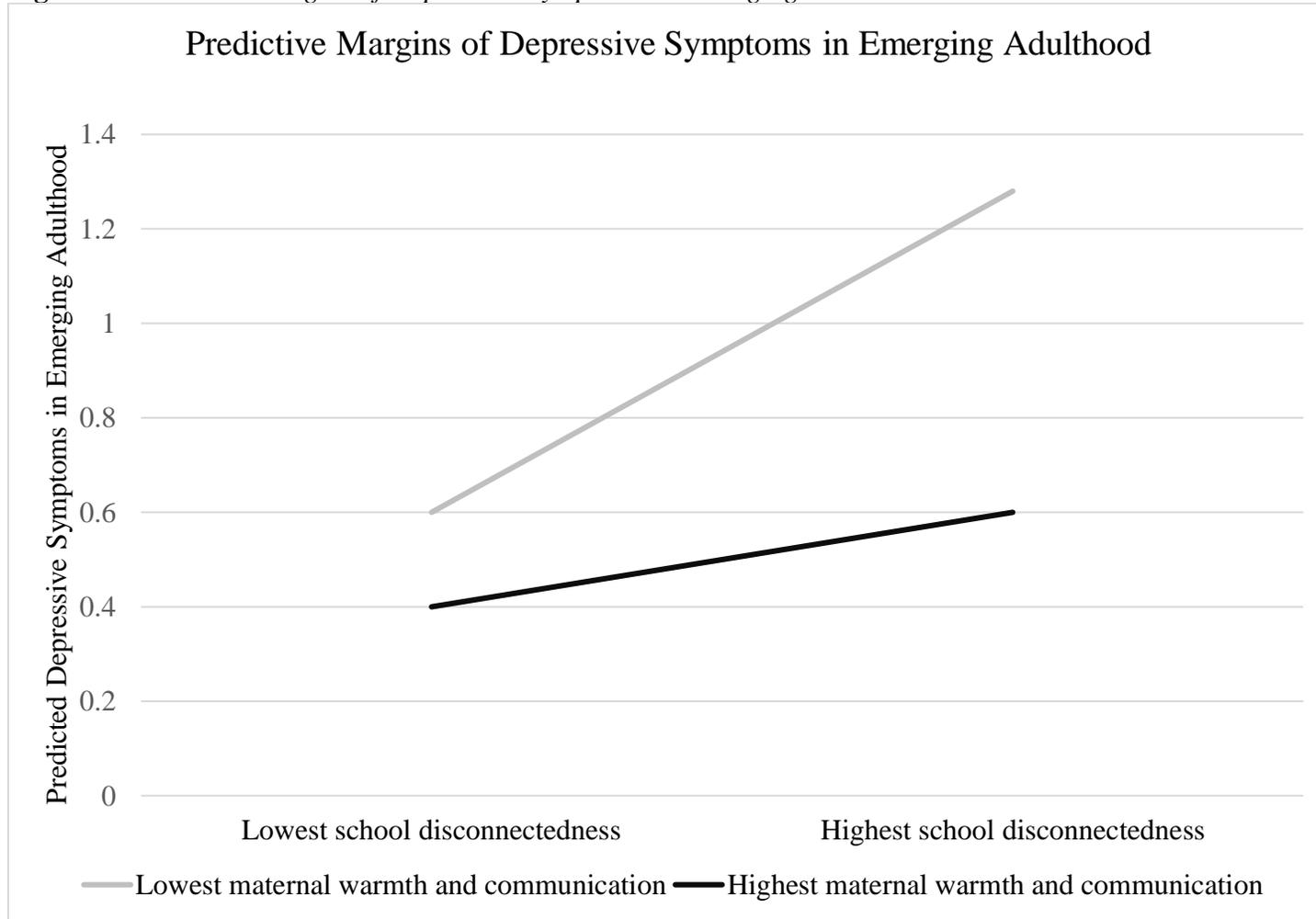


Table 4. OLS Regressions Predicting Depressive Symptoms in Emerging Adulthood among Whites and Blacks

Variable	NH Whites								NH Blacks						
	Model 1	Model 2	Model 3	Model 4	Model 1	Model 2	Model 3	Model 4							
School disconnectedness (W2)	0.10 (0.01)	***	0.10 (0.01)	***	0.10 (0.01)	***	0.19 (0.06)	**	0.09 (0.02)	***	0.08 (0.02)	***	0.08 (0.02)	**	0.17 (0.13)
Maternal warmth and communication (W2)			-0.06 (0.01)	***	-0.06 (0.01)	***	-0.03 (0.02)				-0.03 (0.02)		-0.03 (0.02)		0.00 (0.05)
School disconnectedness x Maternal warmth and communication (W2)					-		-0.02 (0.01)				-		-		-0.02 (0.03)
Gender - female					0.10 (0.01)	***	0.10 (0.01)	***					0.05 (0.03)		0.05 (0.03)
Immigrant generation status - rel. to 3rd gen; 1st gen.					0.13 (0.06)	*	0.13 (0.06)	*					-0.09 (0.12)		-0.09 (0.12)
2nd generation					-0.01 (0.01)		-0.01 (0.01)						0.01 (0.03)		0.01 (0.03)
Age of the respondent in Wave III					-0.01 (0.00)	**	-0.01 (0.00)	**					0.00 (0.01)		0.00 (0.01)
Parental education in Wave II - rel. to <HS; HS grad or GED					-0.07 (0.03)	*	-0.07 (0.03)	*					-0.07 (0.04)	†	-0.07 (0.04)
Some college					-0.07 (0.03)	*	-0.08 (0.03)	*					-0.06 (0.05)		-0.06 (0.05)
Completed college+					-0.08 (0.03)	**	-0.08 (0.03)	**					-0.15 (0.04)	**	-0.15 (0.04)
Don't know					-0.06 (0.04)		-0.06 (0.04)						-0.05 (0.06)		-0.05 (0.06)
Family structure (W2) - rel. to two bio parents; two parents					0.03 (0.02)		0.02 (0.02)						0.02 (0.06)		0.02 (0.06)
Single parent					0.01 (0.02)		0.01 (0.02)						0.02 (0.04)		0.02 (0.04)
Other family arrangement					0.04 (0.02)		0.04 (0.02)						0.08 (0.03)	*	0.08 (0.03)
Constant	0.60 (0.05)	***	0.60 (0.05)	***	0.77 (0.12)	***	0.63 (0.15)	***	0.44 (0.04)		0.60 (0.11)	***	0.60 (0.26)	*	0.47 (0.28)
<i>n</i>					5,430							2,063			
F statistic	71.37		71.37		17.87		17.87		17.68		9.85		6.97		6.99
Prob > F	0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00

Table 5. OLS Regressions Predicting Depressive Symptoms in Emerging Adulthood among Hispanics and Asians

Variable	Hispanics								Asians					
	Model 1	Model 2	Model 3	Model 4	Model 1	Model 2	Model 3	Model 4	Model 1	Model 2	Model 3	Model 4		
School disconnectedness (W2)	0.07 (0.03)	**	0.07 (0.03)	*	0.07 (0.03)	*	0.41 (0.18)	*	0.05 (0.05)	0.04 (0.05)	0.02 (0.05)	-0.18 (0.27)		
Maternal warmth and communication (W2)			-0.60 (0.03)	†	-0.06 (0.03)	*	0.05 (0.06)			-0.02 (0.04)	-0.01 (0.04)	-0.08 (0.09)		
School disconnectedness x Maternal warmth and communication (W2)					-		-0.08 (0.04)	†		-		0.05 (0.07)		
Gender - female					0.08 (0.03)	*	0.09 (0.03)	**			0.01 (0.05)	0.00 (0.05)		
Immigrant generation status - rel. to 3rd gen; 1st gen.					-0.04 (0.06)		-0.03 (0.06)				0.02 (0.05)	0.03 (0.05)		
2nd generation					0.01 (0.05)		0.00 (0.05)				0.00 (0.06)	-0.02 (0.06)		
Age of the respondent in Wave III					-0.02 (0.01)	+	-0.02 (0.01)				0.01 (0.02)	0.01 (0.02)		
Parental education in Wave II - rel. to <HS; HS grad or GED					-0.15 (0.04)	**	-0.15 (0.04)	***			0.19 (0.07)	**	0.18 (0.06)	
Some college					-0.15 (0.05)	**	-0.15 (0.05)	**			0.04 (0.09)		0.03 (0.09)	
Completed college+					-0.04 (0.06)		-0.05 (0.06)				0.02 (0.07)		0.01 (0.07)	
Don't know					-0.09 (0.06)		-0.09 (0.06)	†			0.05 (0.08)		0.09 (0.09)	
Family structure (W2) - rel. to two bio parents; two parents					-0.12 (0.05)	*	-0.12 (0.05)	*			-0.08 (0.07)		-0.08 (0.07)	
Single parent					0.06 (0.07)		-0.07 (0.07)				-0.07 (0.08)		0.02 (0.09)	
Other family arrangement					0.04 (0.04)		0.04 (0.04)				0.08 (0.06)		0.07 (0.06)	
Constant	0.48 (0.04)	***	0.74 (0.15)	***	1.15 (0.29)	***	0.56 (0.32)	†	0.51 (0.06)	***	0.59 (0.16)	**	0.21 (0.41)	
<i>n</i>					1,491						708			
F statistic	7.20		5.68		6.09		5.91		0.80		0.40		2.33	
Prob > F	0.01		0.00		0.00		0.00		0.37		0.67		0.01	
													0.03	

CHAPTER 3
PARENT-CHILD RELATIONSHIPS AND NON-MARITAL FERTILITY IN THE
TRANSITION TO ADULTHOOD

Abstract

In the early years of the 21st century, non-marital fertility accounted for nearly 41% of all births in the United States, with higher rates among Black women and Latinas. The purpose of this study is to examine associations of individual attitudes about non-marital fertility, parent-child relationships, and perceived maternal permissive attitudes about sexual activity on the likelihood of having a non-marital birth in young adulthood. Using data from Waves I, III and IV of the National Longitudinal Study of Adolescent to Adult Health ($n=7,171$), I use event-history analysis and find that individual attitudes and parent-child relationships are associated with the likelihood of having a non-marital birth, with variation by race and ethnicity. Women who would consider having a non-marital birth in adolescence were more likely to have one in young adulthood. Maternal warmth and communication in adolescence are associated with a decreased likelihood of having a non-marital birth in young adulthood, but only among Black and Asian women. Parent-child relationships in adolescence continue to have salience for non-marital fertility in young adulthood among minority women.

Keywords: Adolescent sexual/contraceptive behavior; youth/emergent adulthood; life events and transitions; race; ethnicity; parent-adolescent relations

INTRODUCTION

From 1970 to 2009, the percentage of non-marital births increased from 11% to 41% in the United States, with higher rates among Black and Hispanic women compared to White and Asian women (Martinez et al., 2012; Shattuck, 2017). Reasons for the rise of non-marital fertility include an increasing median age of marriage, the growing prevalence of cohabiting unions, and declining stigma against non-marital childbearing (Child Trends, 2016; Thornton & Young-Demarco, 2001). Relative to married mothers, unmarried mothers are more likely to live in poverty, have fewer socioeconomic resources, and have children who experience earlier sexual debut (Aquilino, 1996; Wu, 2008). However, the processes contributing to the rise in non-marital fertility among racial and ethnic groups are unknown, and not fully explained by socioeconomic status (Sweeney & Raley, 2014). In addition, little is known on how the delaying transition to adulthood and how parent-child relationships contribute to changes in non-marital fertility.

The rise of non-marital fertility falls in the context of the delaying transition to adulthood, which has led to greater dependence on parents as children age (Bonnie et al., 2015). As parents and children navigate new roles and responsibilities from adolescent to adulthood, parents play a key role in teaching, shaping, and monitoring their children's attitudes about sexual activity and fertility (Longmore et al., 2009; Longmore et al., 2013). Situating non-marital fertility in the delaying transition to adulthood is important in order to understand the potential intergenerational processes contributing to the growth of non-marital fertility. Relative to older adults, younger adults tend to be more accepting of non-marital childbearing, (Taylor et al., 2007). Greater acceptance of non-marital fertility translates to behavioral outcomes – Shattuck (2017) finds that adolescents who are willing to have a non-marital birth are more likely to have one as a young adult. In her analysis, however, she does not examine the role of parents, who are

key socializing agents of sexual activity in adolescence (Raffaelli & Green, 2003; Longmore et al., 2009).

In this study, I examine how attitudes regarding non-marital childbearing, parent-child relationships, and perceived maternal permissiveness on sexual activity in adolescence, are associated with the likelihood of having a non-marital birth in young adulthood. Using data from a national longitudinal study of adolescents, I use frameworks of the theory of reasoned action (Ajzen & Fishbein, 1980) and social learning (Longmore et al., 2013) to understand factors shaping youths' likelihood of having a non-marital birth in young adulthood. Given that rates of non-marital fertility vary substantially by race and ethnicity (Sweeney & Raley, 2014), I seek to understand how these contributing factors vary by racial and ethnic group. I focus my study on women ages 18-34 years old, as the largest proportion of non-marital births occur to women less than 30 years old. I focus on maternal relationship quality because mother-child relationship quality is higher than father-child relationship quality (Rossi & Rossi, 1990), and because a substantial proportion of the sample does not grow up with two biological parents (Harris, et al., 2009). My basic hypothesis is that adolescents who (1) are willing to have a non-marital birth, (2) have lower parent-child relationship quality (less warm and communicative, and less controlling), and (3) perceive that their mothers would allow them to engage in sexual activity are more likely to have a non-marital birth in young adulthood. I also expect these characteristics to vary by race and ethnicity.

By understanding the processes during adolescence that shape non-marital fertility in adulthood, this study provides three distinct contributions to the literature. First, although adolescent attitudes about non-marital fertility predict the likelihood of having a non-marital birth in young adulthood (Shattuck, 2017), the role of parents in shaping this outcome is

unknown - specifically, the role of parental attitudes regarding sexual activity and parent-child relationship quality. Given that parents are the primary socializing agents regarding sexual behavior for their children (Raffaelli & Green, 2003), this study provides insight on the role of parents in shaping their children's fertility outcomes. Second, although parental attitudes about sexual activity have been linked to children's sexual debut (Longmore et al., 2009), little is known about how parent-child relationships shape fertility outcomes for different racial and ethnic groups. Third, this study contributes to the literature and to the social learning model (Longmore et al., 2013) by investigating the proximate determinants of fertility using discrete time event history analysis. This study illuminates whether parents have influence over fertility behaviors in the long run as adolescents navigate autonomy and parental control.

The Theory of Reasoned Action and Attitudes about Non-Marital Fertility

A central focus of this study is on the developmental stages of adolescence to young adulthood. Adolescence is a critical developmental period where shifts in roles, biological transitions, and identities occur (Longmore et al., 2013). During this time, adolescents navigate autonomy from their parents, which may lead to either prosocial or conflictual behaviors. These habits set the stage for the rest of the life course, as youth transition to adulthood (Arnett, 2010). Of course, parents may not be effective in controlling their children's behaviors – adolescents are navigating autonomy and may assert their own opinions and behaviors.

Therefore, the first theoretical framework guiding this paper is the theory of reasoned action, that posits that individual attitudes predict behaviors (Ajzen & Fishbein, 1980). Attitudes are defined as a “disposition to respond favorably or unfavorably to an object, person, institution or event” (Ajzen, 1980; p. 4). Intentions are defined as a “complex mental state in which there is a desire for some outcome, a belief that taking a particular action will lead to that outcome, and

some degree of commitment to perform the action” (Bachrach & Morgan, 2013; p. 460).

Therefore, individual attitudes about non-marital fertility in adolescence may predict the actual likelihood of having a non-marital birth in young adulthood. However, the strength of the link between attitudes and fertility strongly depends on how much time has elapsed between the initial intention and the planned behavior (Schoen et al., 1999).

In general, research has generally supported that fertility attitudes and intentions predict fertility outcomes. Adolescent expectations on whether or not they will have a premarital pregnancy are associated with their actual fertility outcomes (Plotnick, 1992; Schoen & Tufis, 2003; Schoen et al., 1999; Shattuck, 2017; Trent & Crowder, 1997). However, there may be ambivalence and uncertainty with regards to fertility intentions, as adolescent girls may not be certain about whether they plan to have a birth in the future due to other factors that may interfere with the ability to have a child, such as getting a job, being in a romantic or sexual relationship, pursuing higher education, or even the decision to remain childless for the remainder of the life course (Hayford, 2009; Schoen, 1999). Therefore, fertility intentions may not be extremely accurate in predicting actual fertility behaviors, and the strength of the relationship between intention and behavior may depend on various demographic factors, such as the timing of the life course, and relationship status (Morgan, 2001; Schoen et al., 1999). Women who are older and married are more likely to follow through with their fertility intentions (Schoen et al., 1999).

Individual factors that are associated with a decreased likelihood of having a premarital pregnancy include high educational expectations (Plotnick, 1992). Relative to women who have not completed a high school degree and are unemployed, women who are more highly educated and are employed are also more likely to delay marriage and childbearing (Thornton et al.,

1995). Attitudes about whether the growing proportion of single mothers are a “bad thing for society” vary by age, with older individuals being more disapproving than younger individuals. Approximately 57% of 18-29-year-olds believe that single mothers are a “bad thing for society,” relative to 70% of 50-64-year-olds (Taylor et al., 2007). In addition, Barber (2001) suggests that attitudes formed during the transition to adulthood have greater salience on childbearing attitudes because they set the path for individuals to decide whether or not to pursue education and work.

Other important predictors of attitudes towards family formation include family structure, maternal education, and race and ethnicity (Thornton, 1991; Trent & South, 1992). These studies find that respondents who live with a single mother or who are in stepfamilies are more likely to expect non-marital childbearing relative to those who grew up in two-biological parent families (Plotnick, 1992; Trent, 1994). In addition, adolescents whose mothers have more educational attainment are more likely to have expectations to marry before childbearing (Trent, 1994). Women who are Black and Hispanic are more likely to be open to non-marital fertility relative to White women (Hayford et al., 2009; Browning & Burrington, 2006).

A central focus of this paper is understanding the interplay of parents and children during the transition to adulthood, and how this shapes fertility behaviors. Parents are the primary socializing agents for their children and are able to shape attitudes and actions by teaching, providing, and monitoring social opportunities for their children (Parke & Buriel, 2007). Parenting practices include actual behaviors that parents take in order to fulfill their parenting goals. For example, if parents have the goal to prevent their children from engaging in sexual activity, they may have conversations with their children about abstinence. When there is social support for a particular behavior, the individual may be more inclined towards the behavior (Grube & Morgan, 1990).

The Role of Parents' Attitudes on Fertility Intentions and Behaviors: Social Learning Theory

This paper examines the pathways in which parents, particularly through their attitudes on sexual activity when their children are adolescents, can influence their children's fertility behaviors, through the framework of social learning (Longmore et al., 2013). In the social learning approach (Longmore et al., 2013), adolescent children learn and model their parents' attitudes and behaviors. Learning may come from direct observation, or from parent-child communication, which is a particularly important form of socialization (Longmore et al., 2013; Moore et al., 1989). For example, previous research has found that adolescents who grew up outside of a two-biological parent household were less likely to approve of marriage, and more likely to consider divorce (Axinn & Thornton, 1996); therefore, adolescents who grew up in single-parent households may be more likely to approve of having a non-marital birth. Although there is no direct measure on parents' attitudes on non-marital fertility, I use a measure of perceived maternal attitudes towards sexual activity for a broad measure of attitudes towards fertility (Barber, 2001). Through the social learning approach, I expect that adolescents who perceive that their mothers are less permissive towards them having sex in adolescence would be less likely to have a non-marital birth in young adulthood.

Previous literature finds that parental attitudes influence adolescent children's fertility behaviors. Longmore et al. (2009) suggests that parental attitudes towards sex may be internalized by children and affect fertility behaviors. Previous research finds that parental attitudes about sexual activity is associated with the onset of sexual activity and birth control use. Parental attitudes about sexual activity tend to be disapproving, with conversations on sexual activity characterized by "threats, morality, and general discomfort" (Goldfarb et al., 2018; p. 5). Studies find mixed results with regards to the associations of maternal communication on sex on

the sexual activity of children, with some finding links to earlier sexual debut (Buhi & Goodson, 2007; Davis & Friel, 2001; Resnick et al., 1997), a reduced number of sexual partners (Lansford et al., 2010), as well as later sexual debut (Pearson et al., 2006), but may depend on the parents' openness towards sexual activity (Moore et al., 1986).

Studies also document differences by race and ethnicity with regards to perceived maternal attitudes about sexual activity. White mothers perceived communication about sex as important so their adolescent children would delay their sexual debut, and that it was important to establish an honest and approachable relationship with their children to facilitate conversations on sexuality (Wilson et al., 2010). Among Latinas, maternal communication on sex is low and indirect, and a cultural regard to “female innocence” is emphasized (Marin & Gomez 1997; Rafaelli et al., 2003). Among Asian adolescents, 89% perceive that their mothers do not approve of sexual activity (Hahm et al., 2008). Asian adolescents are also more likely to have an earlier sexual debut before the age of 15 if there is perceived maternal approval of sexual activity (Hahm et al., 2008). Among Black women, mothers who have more conservative attitudes about premarital sex have daughters who also report conservative attitudes about sexual activities in relationships (Bynum, 2007).

The Independent and Moderating Roles of Maternal Warmth and Communication and Parental Control on Sexual Activity

Parents can have the best of intentions for their values to relay to their children. However, when discussing a sensitive subject like sexuality, conflict can ensue (Longmore et al., 2013). Therefore, parent-child relationship quality may moderate whether parents' values and attitudes actually transmit to their children (Cavanagh et al. 2008). For example, parents may intend their children to delay sexual activity and communicate these values to their children, but if children

have strained relationships with their parents, they may not necessarily wish to follow their parents' guidelines. I examine parent-child relationship quality through maternal warmth and communication that includes maternal closeness, and parental control. Parental control is defined as "behavioral constraints, and is often measured as monitoring" (Longmore et al., 2009; p. 324). Parental closeness, on the other hand, is "characterized by support, warmth, nurturance, and involvement" (McElwain & Bub, 2016; p. 3), and also measures the degree of attachment to the parent (Kapinus & Gorman, 2004). Adolescents who are emotionally close to their parents may be less likely to engage in risky behaviors in order to prevent parental disappointment. Parental warmth is defined as "verbal and non-verbal behaviors that reflect overall acceptance, including expressions of affection, support, and positive involvement regarding a child" (Epkins & Harper, 2016; p. 136). Adolescents who feel that their parents care about them are more likely to take parental values into account because adolescents who are emotionally attached to their parents are more likely to listen to them (Baumarind, 1991; Longmore et al., 2013). Therefore, through parental closeness and warmth, parents can remain in control outside of direct supervision (Zito & Coster, 2016).

Empirically, there has been support for the independent and moderating roles of parental closeness, warmth, and control on sexual activity of children. Perceived maternal disapproval of children having sex in adolescence is associated with children's later age of sexual debut (Davis & Friel, 2001; Jaccard & Dittus, 2000; Kapinus & Gorman, 2004; Longmore et al., 2009) particularly if respondents report being emotionally close to their mothers (Johnson & Tyler, 2007; Ream & Savin-Williams, 2005; Sieving et al., 2000). Close parent-child relationships lead to communication that is more open and approachable (McElwain & Bub, 2016). Maternal closeness in adolescence is also linked to decreased frequency of sexual intercourse, but not

when controls are included (McElwain & Bub, 2016). Maternal warmth is linked to a decreased likelihood of sexual initiation (Longmore et al., 2009). Parental attitudes towards marriage and parenthood are also associated with children's attitudes towards these topics, even more than non-family influences (Starrels & Holm, 2002).

Studies examining the link between parental control and fertility behaviors find that parental control is associated with later onset of sexual initiation among adolescents (Johnson & Tyler, 2007; Longmore et al., 2009; Manlove et al., 2012). Parental control is associated with delayed sexual debut and contraceptive use (Dittus et al., 2014). Parent-child relationships characterized by conflict and overcontrol are associated with earlier sexual debut and greater risk behaviors (Longmore et al., 2009; Zimmer-Gembeck & Helfand, 2008). However, more controlling parents may be able to monitor and keep guard of their children's activities (Jaccard & Dittus, 2000; Madsen, 2008).

Conceptual Framework

The conceptual framework guiding this study includes the theory of reasoned action (Ajzen & Fishbein, 1980) and social learning (Longmore et al., 2013). Attitudes about non-marital fertility and parent-child relationships in adolescence are assessed to see how these attitudes shape the likelihood of having a non-marital first birth by age 34. Interactions of parent-child relationship quality and perceived maternal permissiveness regarding sexual activity are also explored to assess whether maternal relationship quality moderates the association between perceived maternal attitudes towards sexual activity and the likelihood of having a non-marital birth.

Hypotheses

Based on the literature, I expect the following:

- 1) Testing the theory of reasoned action (Azjen & Fishbein, 1980), respondents who do not approve of having a non-marital birth in adolescence will be less likely to have a non-marital birth in young adulthood.
- 2) Testing social learning theory (Longmore et al., 2013), parent-child relationship factors (higher levels of maternal warmth and communication and parental control, and lower levels of maternal permissive attitudes about sexual activity) will be associated with a decreased likelihood of having a non-marital first birth.
- 3) I expect maternal warmth and communication and parental control to moderate the association of maternal permissive attitudes about sexual activity. For example, respondents report higher maternal warmth and communication and perceive that their mothers are more permissive towards sexual activity in adolescence will be more likely to have a non-marital birth in young adulthood.
- 4) Finally, I expect variation in these associations of predictive factors by race and ethnicity, with parent-child relationship factors having greater significance for minority women than for White women. Specifically, I expect parent-child relationship factors to be more significantly associated with non-marital fertility among minority women than for White women.

METHOD

Data

For this analysis, I use data from Waves I and IV of the National Longitudinal Study of Adolescent to Adult Health (Add Health). Add Health is a nationally representative sample of adolescents who were in the 7th-12th grades from 1994-1995 in Wave I. In Wave IV, respondents were re-interviewed in 2008-2009 and were 24-34 years old. The sample framework is as

follows: 20,745 adolescents completed Wave I from 1994-1995. I restrict the sample to those who complete Wave IV and have valid sampling weights, dropping the sample to 14,800 (Chen & Chantala, 2016). Because this analysis is focused on women, the sample size drops to 7,866. I remove women who were married in Wave I ($n=50$), women who had children in Wave I ($n=8$), and women who were not White, Black, Latina, or Asian ($n=97$) due to small sample sizes. I remove respondents with missing data on the dependent variables and control variables, including those with missing attitudes about non-marital fertility ($n=30$), maternal closeness ($n=378$), maternal warmth and communication ($n=5$), parental control ($n=2$), maternal permissive attitudes about sexual activity ($n=87$), and missing maternal education ($n=6$). Respondents missing on these characteristics are more likely to be non-White, foreign-born, and have lower socioeconomic status (Brownstein et al., 2010). This leads to an analytic sample of 7,171 respondents, that includes 3,949 White, 1,669 Black, 1,146 Latina, and 407 Asian women.

Measures

The main dependent variable of interest is whether the respondent had a *non-marital first birth*, gathered from the retrospective marital and birth histories of Add Health. Respondents who have a non-marital first birth are coded as 1, while respondents who do not have a non-marital first birth are coded as 0.

Independent Variables

Individual Attitudes about Non-Marital Fertility

The respondent's attitude towards non-marital fertility is asked in Wave I: "regardless of whether you have ever had a child, would you consider having a child in the future as an unmarried person?" I reverse-code the responses and they range from *no* (0) to *yes* (1).

Parent-Child Relationships

Parent-child relationship measures include maternal warmth and communication, parental control, and perceived maternal permissiveness on sexual activity, all measured at Wave I. The mother refers to the respondent's primary mother figure, whether it is a biological mother, adoptive mother, stepmother, or foster mother. *Maternal warmth and communication* is a scaled measure ($\alpha=.85$) of the following items that range from *strongly disagree* (1) to *strongly agree* (5), with the exception of maternal closeness, which ranged from *not close at all* (1) to *extremely close* (5): how close do you feel to your mother, most of the time, your mother is warm and loving towards you; your mother encourages you to be independent; when you do something wrong that is important, your mother talks about it with you and helps you understand why it is wrong; you are satisfied with the way you and your mother communicate with each other; and overall, you are satisfied with your relationship with your mother. *Parental control* is a scaled measure ($\alpha=.70$) of five yes-no items, including whether the respondent is allowed to choose who to hang out with, how much TV to watch, which TV programs to watch, which clothes to wear, and what to eat. The respondent's *perceived maternal permissiveness on sexual activity* ($\alpha=.78$) is a scaled measure of three items: how she perceives her mother would feel about her having sex at this time in her life, how she feels about her having sexual intercourse with someone special to her like a boyfriend or girlfriend, and how she feels about her using birth control at this time in her life. Answers range from *strongly disapprove* (1) to *strongly approve* (5).

Interaction terms include dimensions of maternal relationship quality, parental control, and perceived maternal permissive attitudes about sexual activity. I interact maternal warmth and communication and parental control with maternal permissive attitudes about sexual activity, to

assess whether adolescents who perceived higher relationship quality and greater control to be more affected by perceived maternal attitudes towards sex.

Control Variables

Wave I Control Variables

Background control variables for the analyses conducted for the full sample include race and ethnicity, immigrant generation status in Wave I, whether the respondent had sex at the time of interview in Wave I, family structure in Wave I, and the respondent's mother's highest level of education in Wave I. *Family structure* in Wave I includes those with two biological parents, two parents, a single parent, and other. *Immigrant generation status* includes those who were first-generation, second-generation, and third-generation immigrants. The *race and ethnicity* of the respondent is divided into four categories: non-Hispanic White, non-Hispanic Black, Hispanic, and non-Hispanic Asian. *Maternal education* in Wave I includes those with less than a high school degree, those who completed high school, some college, college and more, and don't know. *Educational aspirations* in Wave I includes how much the respondent wanted to go to college, and ranges from *low* (1) to *high* (5). The *sexual status* at the Wave I interview is whether the respondent has ever had sex at the time of interview, and ranges from *no* (0) to *yes* (1).

Time-Varying Control Variables

Time-varying control variables include educational attainment (completed high school, completed some college, and completed college and more), and having ever cohabited at the time of interview in Wave III and Wave IV. Each of these variables are split into two subepisodes, expanding the dataset into additional observations. These are dummy variables using the years the respondent completed high school, some college, or college and more. If the respondent completed high school, some college, or college and more, she was coded as 1, and 0 otherwise.

The respondent's cohabitation history is gathered from the year she begins cohabiting with her romantic partner in Waves III and IV. If the respondent had ever cohabited, she is coded as 1, and 0 otherwise. Also included are time-varying controls for the respondent's age (coded as age in the person-year), age squared (age in the person-year, squared), and period (the respondent's birth year plus her age in the person-year).

Analytic Approach

I use discrete-time event history analysis to find associations of individual attitudes, parent-child relationships, and perceived maternal permissive attitudes about sexual activity on the likelihood of having a non-marital first birth. I create a person-year file in order to model the timing and risk of having a first non-marital birth. The woman's "risk" of having a non-marital birth begins at her age of sexual debut until the age she is censored, or the age at her Wave IV interview. The dependent variable, whether the respondent had a non-marital birth, is coded 1 if a first non-marital birth occurred during each person-year, and 0 otherwise. Person-year observations that occur after the year of marriage, non-marital birth, marital birth, marriage prior to the birth, or after the age of interview in Wave IV are dropped from the person-year file. I use Stata 15.0 to estimate logistic regression models predicting the timing of having a first non-marital birth. From the 7,171 women in the analytic sample, 73,131 person-years were generated. Adding the time-varying control variables creates splitted subepisodes, which leads to an increase in the sample size to 230,030 person-years. I explore these relationships in separate models by race and ethnicity with the following sample sizes: 169,943 for Whites, 56,446 for Blacks, 39,441 for Latinas, and 15,534 for Asians.

RESULTS

Summary of the Sample

Table 1 presents an overview of the descriptive characteristics of the sample, including respondents' attitudes about non-marital births, parent-child relationships, and demographic characteristics. Most respondents in adolescence are not willing to have a non-marital birth, while 24% of respondents would consider having a child as an unmarried person in the future. Generally speaking, parent-child relationship quality is high in adolescence – most respondents perceive that their mothers are warm and communicative. Parental control during adolescence is relatively low – most respondents feel like they had autonomy over aspects of their daily lives. Perceived maternal permissive attitudes about sexual activity is low – most respondents feel like their mothers would not allow them to have sex at the time of interview, with someone special such as a significant other, or allow them to use birth control during adolescence. Almost 1 in 5 women in this sample experience a non-marital birth by age 34. Other demographic characteristics are listed in Table 1.

[Insert Table 1 here]

Descriptive Statistics by Race and Ethnicity

Table 2 outlines measures of individual attitudes on non-marital fertility, parent-child relationships and nonmarital fertility outcomes by race and ethnicity. Overall, there are differences by race and ethnicity, confirming Hypothesis 4. Approximately one third of Black adolescents consider having a birth as an unmarried person, followed by 29% of Latinas, 22% of White women, and 17% of Asian women. Perceived parent-child relationship quality is highest among Black adolescents, with regards to maternal warmth and communication, and lowest among Asian adolescents. Parental control is highest among Hispanics and Asians. Perceived

maternal permissive attitudes about sexual activity in Wave I is highest among Black adolescents, followed by White, Hispanic, and Asian adolescents. The percentage of those who experience a first non-marital birth by the age of 34 is 36% of Black, 21% of Hispanic, 15% of White, and 12% of Asian women. Descriptively, there is variation in attitudes about non-marital fertility, parent-child relationships, perceived maternal attitudes about sexual activity, and non-marital fertility outcomes by race and ethnicity.

[Insert Table 2 here]

Analytic Results for the Overall Sample

The next step in this paper is to establish the relationship between individual attitudes about non-marital fertility, parent-child relationship factors, and interactions of parent-child relationship quality and maternal attitudes on sexual activity during adolescence on the likelihood of having a non-marital birth in young adulthood. Overall, I find that individual attitudes predict the likelihood of having a non-marital birth, and weak confirmation that maternal warmth and communication is associated with a decreased likelihood of having a non-marital birth in young adulthood. For the overall sample, I find that interactions of parent-child relationships and maternal permissive attitudes about sexual activity are associated with the likelihood of having a non-marital birth in young adulthood. Specifically, the interaction of maternal warmth and communication and maternal permissive attitudes towards sex is positively associated with an increased likelihood of a non-marital birth. Therefore, I find evidence to support the theory of reasoned action, Hypothesis 1, and Hypothesis 3, that maternal relationship quality moderates the association of maternal permissive attitudes about sexual activity and the likelihood of having a non-marital birth.

Table 3 shows odds ratios from analyses modeling the relationship between individual attitudes about non-marital fertility, parent-child relationship quality, and perceived maternal attitudes about sexual activity on the likelihood of having a first non-marital birth for the full sample of women. I add the variables in a stepwise fashion in order to understand the baseline relationship between individual attitudes about non-marital fertility, parent-child relationships, and these factors when all controls are added. Model 1 shows the baseline relationship between individual attitudes and non-marital fertility, controlling for age and period effects. Supporting the theory of reasoned action (Hypothesis 1), women considering having a non-marital birth in adolescence are 1.80 times more likely to have a first non-marital birth compared to women who do not consider having a non-marital birth in adolescence. Model 2, the parental model, adds the parent-child relationship measures. In this model, I do find evidence to support that individual attitudes (Hypothesis 1), as well as parent-child relationships (Hypothesis 2), are associated with the likelihood of having a non-marital birth in young adulthood. Respondents who were willing to have a non-marital birth in adolescence are 1.54 times more likely to have one in young adulthood. Adolescents who perceived that their mothers were more permissive towards sexual activity were 1.36 times more likely to have a non-marital birth as a young adult.

Supporting social learning theory (Hypothesis 2), higher levels of maternal warmth and communication in adolescence are associated with 7% decreased odds of having a non-marital birth in young adulthood compared to respondents who report lower maternal warmth and communication, but this association was not significant. In addition, perceived maternal permissive attitudes towards sexual activity during adolescence is associated with 1.36 increased odds of having a non-marital birth. The next step is the addition of the control variables in Model 3. With the full controls included, only individual attitudes about non-marital fertility and

perceived maternal permissive attitudes towards sexual activity are significantly associated with the likelihood of having a non-marital birth.

To assess whether the maternal relationship quality and parental control moderated the association between maternal permissive attitudes on sexual activity and the likelihood of having a non-marital birth, I included interaction terms in Model 4. I found that non-marital attitudes on fertility were associated with an increased likelihood of having a non-marital birth, while maternal warmth and communication was weakly associated with a decreased likelihood of having a non-marital birth. In addition, I found that the interaction of maternal warmth and communication and maternal permissive attitudes on sexual activity was significantly associated with an increased likelihood of having a non-marital birth. In other words, adolescents who reported higher levels of maternal warmth and communication, as well as higher levels of maternal permissive attitudes on sexual activity, were more likely to have a non-marital birth in young adulthood. Therefore, I find evidence to support Hypotheses 1 and 3. I also conducted interactions of parent-child relationship factors and race and ethnicity, to see whether there were significant differences in the association of parent-child relationships for Whites compared to racial and ethnic minorities. I did not find significant associations of interactions of any parent-child relationship factors and race and ethnicity, so I did not find support for Hypothesis 4.

Although the main focus of this paper is on individual attitudes about non-marital fertility and parent-child relationships, other secondary associations appear in these analyses. These important controls include ever having sex in adolescence, educational attainment, and ever having cohabited. Prior sexual experience strongly predicts the likelihood of a non-marital birth – those who previously had sex in Wave I are 1.38 times more likely to have a non-marital birth than those who never had sex. Educational attainment also serves as an important predictor of the

likelihood of having a non-marital birth, with women who complete higher levels of education as significantly less likely to have a non-marital birth. Also, compared to women who have never cohabited, women who ever cohabited are slightly less likely to have a non-marital birth in young adulthood.

[Insert Table 3 here]

Analytic Results by Race and Ethnicity

Given that the purpose of this study is to assess differences in the factors contributing to an increased likelihood of having a non-marital birth for different racial and ethnic groups, I examine differences in individual and parent-child relationships as contributing factors to non-marital fertility, by conducting separate analyses by racial and ethnic group. I conduct the analyses in a stepwise manner. Model 1 includes attitudes on non-marital fertility, Model 2 includes parent-child relationship factors, Model 3 adds control variables, and Model 4 includes interaction terms of maternal warmth and communication, parental control, and maternal permissive attitudes on sexual activity. Results are shown in Tables 4-7 for White, Black, Hispanic, and Asian women.

Table 4 shows logistic regressions predicting the likelihood of having a non-marital birth for White women in a stepwise manner. In Model 1, I do find that attitudes on non-marital fertility are associated with the likelihood of having a non-marital birth in young adulthood. However, with the addition of the parent-child measures in Model 2, only maternal permissive attitudes towards sexual activity are associated with an increased likelihood of having a non-marital birth. Adding control variables in Model 3, maternal permissive attitudes towards sexual activity remains the only significant variable associated with the likelihood of having a non-marital birth in young adulthood, confirming Hypothesis 2. With the addition of the interaction

terms of parent-child relationships and maternal attitudes on sexual activity in Model 4, none of the primary explanatory variables or interaction terms are significantly associated with an increased likelihood of having a non-marital birth. Though not central to the study, significant control variables include the desire to attend college in adolescence, growing up in a family structure that did not include two biological parents, two parents, or a single parent, ever having sex in adolescence, and having higher educational attainment.

[Insert Table 4 here]

Which factors predict non-marital fertility among Black women? Stepwise models are shown in Table 5. Among Black women, attitudes on non-marital fertility in adolescence do not significantly shape the likelihood of having a non-marital birth in young adulthood but do go in the direction as anticipated. The mother-child relationship seems to matter, however. Maternal warmth and communication, as well as perceived maternal approval of sexual activity during adolescence, are associated with a decreased likelihood of having a non-marital birth in young adulthood. Supporting Hypothesis 2, Black adolescents who perceive greater maternal warmth and communication have 53% decreased odds of having a non-marital birth. However, those who perceive more permissive attitudes towards sex are significantly less likely to have a non-marital birth in young adulthood, which does not go in the direction as anticipated. Upon examining how parent-child relationship factors may moderate the association of maternal permissiveness on sexual activity, I find that maternal warmth and communication moderates this association. That is, Black girls who reported higher levels of maternal warmth and communication as well as higher levels of permissive attitudes were more likely to have a non-marital birth in young adulthood, confirming Hypothesis 3. Although not central to the study, other significant variables associated with a decreased likelihood of having a non-marital birth

include being a virgin in adolescence, completing high school, some college, and college and more, as well as ever cohabiting.

[Insert Table 5 here]

Table 6 presents logistic regressions on factors predicting the likelihood of having a non-marital birth among Hispanic women, presented in a stepwise manner. Among Hispanic women, adolescents who were willing to have a non-marital birth in adolescence were 2.32 times more likely to have a non-marital birth in young adulthood. Therefore, I only find support for Hypothesis 1 – the theory of reasoned action (Ajzen & Fishbein, 1980). Moving on to aspects of parent-child relationships, I do not find evidence to support Hypotheses 2 and 3 – that aspects of parent-child relationships in adolescence are associated with the likelihood of having a non-marital birth, and that interactions of parent-child relationships are associated with the likelihood of having a non-marital birth. Although not central to the study, the only significant control variable that emerged as significant was educational attainment – those who completed high school were less likely to have a non-marital birth relative to women who did not complete high school.

[Insert Table 6 here]

Table 7 shows factors associated with non-marital fertility among Asian women in a stepwise manner. Overall, I find that individual attitudes on non-marital fertility, and parent-child relationship factors, are significantly associated with an increased likelihood of having a non-marital birth in young adulthood. In Model 1, attitudes on non-marital fertility are weakly associated with an increased likelihood of having a non-marital birth. With the addition of the parent-child relationship variables in Model 2, higher levels of maternal warmth and communication are associated with a decreased likelihood of having a non-marital birth. Among

Asian women, maternal permissive attitudes about sexual activity is associated with an increased likelihood of having a non-marital birth – that is, adolescents who perceive that their mothers are more permissive of their sexual activities are more likely to have a non-marital birth in young adulthood. Higher levels of parental control, on the other hand, is associated with a decreased likelihood of having a non-marital birth among Asian women. Opposite to what I expected (Hypothesis 3), I find that the interaction of maternal warmth and communication and perceived maternal approval on sexual activity is associated with a decreased likelihood of having a non-marital birth. That is, those who report higher levels of maternal warmth and communication and perceive greater maternal permissive attitudes of sexual activity are less likely to have a non-marital birth in young adulthood. It may be possible that these mothers may be discussing healthy sexual practices, such as the use of birth control. Other important control variables that are significantly associated with the likelihood of having a non-marital birth include being a second-generation American, prior sexual experience in Wave I, and completing college. Finally, I find support for Hypothesis 4 – that parent-child relationships are more salient in predicting non-marital fertility outcomes among minority women than for White women. Among White women, maternal permissive attitudes towards sex are associated with non-marital fertility, but among minority women (Black and Asian women only), maternal closeness, maternal warmth and communication, and maternal permissive attitudes towards sex are significantly associated with the likelihood of having a non-marital birth.

[Insert Table 7 here]

How do parent-child relationships shape their children's attitudes on non-marital fertility, which may then shape their children's likelihood of having a non-marital birth? I conducted supplemental analyses to assess whether maternal warmth and closeness, maternal permissive

attitudes towards sex, and parental control moderated the association between attitudes on non-marital fertility and the likelihood of having a non-marital birth in young adulthood. Overall, I found that parent-child relationships did not moderate the association between adolescents' attitudes on non-marital fertility and their likelihood of having a non-marital birth in young adulthood for the full sample of women. When I examined results by race and ethnicity, however, I did find significant interactions of maternal warmth and communication and attitudes on non-marital fertility for Hispanic and Asian women. In other words, Hispanic and Asian adolescents who were willing to have a non-marital birth and perceived higher levels of maternal permissiveness towards sexual activity were significantly more likely to have a non-marital birth in young adulthood. Therefore, maternal permissiveness towards sexual activity in adolescence may be an important factor associated with non-marital fertility outcomes in later life.

CONCLUSION

Research examining non-marital fertility in the context of the changing transition to adulthood is important given that nearly 41% of births in the United States are non-marital. The purpose of this study is to examine whether individual attitudes and parent-child relationships have an influence on children's non-marital fertility outcomes. I examine the associations of individual attitudes about non-marital childbearing, parent-child relationships, and perceived maternal permissive attitudes about sexual activity in the transition to adulthood, using frameworks of reasoned action (Ajzen & Fishbein, 1980) and social learning (Longmore et al., 2013). I also assess whether parent-child relationships moderate the association between maternal permissive attitudes towards sexual activity and the likelihood of having a non-marital birth. Descriptively, I find racial and ethnic differences in the willingness of respondents to have

a non-marital birth in adolescence, with Blacks being the most likely to consider having a non-marital birth in the future, and Asians the least willing to consider having a non-marital birth.

I also find differences in parent-child relationship quality, with Black and Hispanic adolescents reporting higher levels of maternal warmth and communication relative to White and Asian adolescents. Hispanic and Asian women report greater parental control in adolescence relative to White and Black women. Using discrete-time event history analysis, I find that both individual attitudes as well as parent-child relationships are associated with the likelihood of having a non-marital birth, with variation by racial and ethnicity. In particular, maternal warmth and communication serves as an important protective factor among Black and Asian women – those who perceive their mothers as warmer and more communicative in adolescence are less likely to have a non-marital birth in young adulthood. From this study, three themes emerge: 1) for the overall sample, individual attitudes in adolescence predict the likelihood of having a non-marital birth, even more so than parent-child relationships; 2) maternal relationship quality is important to consider in understanding the intergenerational transmission of attitudes on sexual activity; and 3) parent-child relationships in adolescence continue to have salience on fertility outcomes into young adulthood among minority women.

The first theme that emerges from this study is that individual attitudes about non-marital fertility in adolescence are significantly associated with an increased likelihood of having a non-marital birth in young adulthood, more so than parent-child relationship factors, for the overall sample of women. What to make of this finding in the context of the growth of non-marital fertility in the United States? Is it that early attitudes about non-marital childbearing shape actual behaviors in later years? This paper finds that attitudes formed in adolescence have a lasting impact on actual fertility outcomes in later adult years, consistent with prior literature (Shattuck,

2017; Trent, 1994; Trent & Crowder, 1997). This finding confirms the theory of reasoned action (Ajzen & Fishbein, 1980), that individual attitudes predict behaviors. Does this finding provide evidence that the impact of parental influence in adolescence wanes over the life course? Not necessarily. I find evidence that maternal warmth and communication is weakly significantly associated with a decreased likelihood of having a non-marital birth. When analyses are conducted separately by race and ethnicity, however, individual attitudes on non-marital fertility predicted the likelihood of having a non-marital birth among Hispanic and Asian women, but not among White or Black women. Future research could examine why these attitudes were more salient for Hispanic and Asian women.

The second theme that emerged from the study is the importance of maternal relationship quality in shaping the intergenerational transmission of attitudes towards sexual activity. In the full sample, women who reported higher levels of maternal warmth and communication and higher levels of perceived maternal permissiveness on sexual activity, or thought that their mothers would allow them to have sex and use birth control in adolescence, were more likely to have a non-marital birth in young adulthood. Although it is not clear how the mechanisms for this moderation operate, it may be possible that parents' attitudes are more likely to be passed down to children if their children perceive good relationships with their parents. Future research should examine the importance of maternal relationship quality in moderating the association between parents' and children's' attitudes towards non-marital fertility.

The third theme that emerges from this study is that parent-child relationships continue to have salience among minority women in the transition to adulthood. I find that maternal warmth and communication is an important protective factor among Black and Asian women – women who report warm and communicative relationships with their mothers in adolescence are

significantly less likely to have a non-marital birth in young adulthood. These findings have implications for the theoretical frameworks in the study. Specifically, I find support that social learning (Longmore et al., 2013) can extend across developmental stages – in other words, parents can continue to have lasting influence beyond adolescence. I find that maternal warmth serves as a protective factor against non-marital childbearing, but this is only true among Black and Asian women. Given that Black women in this study have the highest rates of non-marital fertility, this finding has important implications for understanding processes contributing to differential rates of non-marital fertility by race and ethnicity. Although Asian women have the lowest rates of non-marital fertility in young adulthood, descriptively, they report the lowest maternal warmth and communication out of all racial and ethnic groups. Previous literature (Sweeney & Raley, 2014) suggests that socioeconomic status cannot fully explain differences in rates of non-marital fertility by race and ethnicity; this study illuminates that parent-child relationships shaped non-marital fertility outcomes by race and ethnicity.

I also find evidence to support social learning theory (Longmore et al., 2013) – the theory that children can learn from and model their parents’ attitudes. I find that Asians who report higher perceived maternal permissive attitudes about sexual activity are more likely to have a non-marital birth in young adulthood. The measure of perceived maternal permissive attitudes includes items such as whether the respondent thought her mother would allow her to have sex at the time of interview, have sex with someone special such as a boyfriend or girlfriend, or use birth control. Given that perceived maternal permissive attitudes about sexual activity are lowest among Asians, this finding was unexpected, but confirms the social learning theory.

Interpersonal relationships in prior periods of the life course have sustained impacts on later

periods in the life course, but these findings are more salient among racial and ethnic minority groups.

Of course, this paper is not free from limitations. The first limitation is the uncertainty of how the parent-child relationship measures are operating with regards to the non-marital fertility outcome. Because I am not able to directly measure parental attitudes towards non-marital fertility due to no measures asked on non-marital fertility in Add Health, I use these parent-child relationship measures. Future research directions include unpacking the mechanisms through which maternal warmth and communication operate as protective factors. The second limitation that emerges from this paper is that I do not have the same measures of parent-child relationships later in the life course, when respondents are young adults. However, given that I still find salience in these parent-child relationship measures in adolescence, future research directions could take this further and assess whether parent-child relationships matter later in the life course.

In a period of a delaying transition to adulthood, a greater period of marital delay, and rising non-marital fertility, this paper seeks to examine the interplay of individuals and parents in contributing to the rise of non-marital fertility, and how this varies across race and ethnicity. Individual attitudes about non-marital fertility formed in adolescence indeed predict the likelihood of having a non-marital birth, but parent-child relationships also matter, especially for minority women. Parent-child relationships are dynamic and can have lasting impacts on children's fertility behaviors over the life course.

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Figure 3. *Conceptual model*

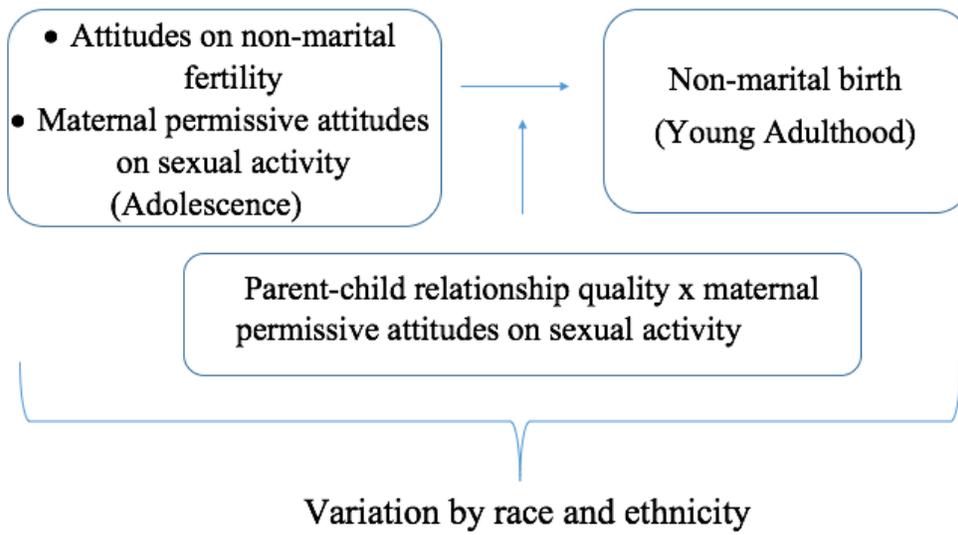


Table 1. *Summary statistics for the analytic sample.*

	Mean	SD	Range	α
Non-marital birth attitudes in Wave I	0.24	0.01	0 to 1	
Maternal warmth and communication in Wave I^a	4.16	0.02	1 to 5	0.85
Parental control in Wave I^b	0.15	0.01	0 to 1	0.70
Perceived maternal permissiveness on sexual activity in Wave I^c	2.01	0.04	1 to 5	0.78
Educational aspirations in Wave I	4.52	0.02	1 to 5	
Race/ethnicity			1 to 4	
NH White	0.70	0.03		
NH Black	0.16	0.02		
Hispanic	0.11	0.02		
NH Asian	0.03	0.01		
Immigrant generation status			1 to 3	
1st generation	0.04	0.02		
2nd generation	0.36	0.02		
3rd generation	0.60	0.01		
Age at interview in Wave I	15.76	0.12	12 to 21	
Family structure in Wave I			1 to 4	
Two biological parents	0.57	0.01		
Two parents (step or bio)	0.17	0.01		
Single parent	0.22	0.01		
Other family arrangement	0.04	0.00		
Maternal education in Wave I			1 to 5	
Less than HS	0.16	0.01		
HS grad or GED	0.35	0.01		
Some college	0.20	0.01		
Completed college+	0.24	0.01		
Don't know	0.04	0.00		
Ever had sex in Wave I	0.35	0.02	0 to 1	
<i>Time-varying covariates</i>				
Completed high school	0.74	0.01	0 to 1	
Completed some college	0.16	0.01	0 to 1	
Completed college or more	0.33	0.01	0 to 1	
Ever cohabited	0.35	0.01	0 to 1	
% who experienced a non-marital birth by Wave IV	0.19	0.01		
<i>n</i>			7,171	

Table 2. Descriptives of means for main predictors by race and ethnicity.

	<u>NH White</u>	<u>NH Black</u>	<u>Hispanic</u>	<u>NH Asian</u>
Non-marital birth attitudes in Wave I	0.22	0.34 ^e	0.29 ^f	0.17
Maternal warmth and communication in Wave I^a	4.22	4.26	4.14 ^f	4.06 ^g
Parental control in Wave I^b	0.14	0.17	0.20 ^f	0.20 ^g
Perceived maternal permissive attitudes about sexual activity in Wave I^c	2.00	2.23 ^e	1.85 ^f	1.64 ^g
% experiencing a non-marital birth	0.15	0.36 ^e	0.21 ^f	0.12

n

7,171

^a - Includes items such as you feel close to your mother; most of the time, your mother is warm and loving towards you; your mother encourages you to be independent; when you do something that is important, your mother talks about it with you and helps you understand why it is wrong; you are satisfied with the way you and your mother communicate with each other; overall, you are satisfied with your relationship with your mother.

^b - Includes items such as whether the respondent was allowed to choose who to hang out with, how much TV to watch, which TV programs to watch, which clothes to wear, and what to eat

^c - Includes items such as how your mother would feel about you having sex at this time in your life; how would she feel about you having sexual intercourse with someone special to you like a boyfriend or girlfriend; how would she feel about her using birth control at this time in her life.

^e - Black-White difference at $p < 0.10$ -level; ^f - Hispanic-White difference at $p < 0.10$ -level; ^g - Asian-White difference at $p < 0.10$ -level

Table 3. Coefficients of Logistic Regressions Predicting the Timing of Having a First Non-Marital Birth.

	Model 1	OR	Model 2	OR	Model 3	OR	Model 4	OR
Non-marital birth attitudes in Wave I	0.59 ***	1.80	0.43 **	1.54	0.29 *	1.34	0.29 *	1.34
	(0.12)		(0.12)		(0.14)	0.87	(0.14)	
Maternal warmth and communication in Wave I^a			-0.07	0.93	-0.05	0.95	-0.22 †	0.80
			(0.06)		(0.06)	0.94	(0.13)	
Parental control in Wave I^b			0.46 †	1.58	-0.08	0.92	-0.58	0.56
			(0.26)		(0.27)	0.76	(0.70)	
Perceived maternal permissive attitudes towards sexual activity in Wave I^c			0.31 ***	1.36	0.14 *	1.15	-0.19	0.83
			(0.05)		(0.06)	0.94	(0.20)	
Maternal warmth x maternal permissive attitudes					-	-	0.84 ***	2.32
					-	-	(0.14)	
Parental control x maternal permissive attitudes					-	-	-0.28	0.76
					-	-	(0.18)	
Want to go to college in Wave I					0.03	1.03	-0.02	0.98
					(0.06)		(0.32)	
Race/ethnic groups (White) - NH Black					0.83 ***	2.29	0.07	1.07
					(0.15)		(0.05)	
Hispanic					0.28	1.32	0.24	1.27
					(0.17)		(0.27)	
Asian					-0.01	0.99	0.03	1.03
					(0.32)		(0.06)	
Generation status (third gen) - Second generation					-0.31	0.73	-0.30	0.74
					(0.19)		(0.19)	
First generation					-0.38	0.68	-0.37	0.69
					(0.34)		(0.34)	
Family structure (Two-bio) parent - Two parents					0.28 †	1.32	0.28 †	1.32
					(0.16)		(0.16)	
Single parent					0.24	1.27	0.25	1.28
					(0.18)		(0.18)	
Other arrangement					0.49	1.63	0.47 †	1.60
					(0.27)		(0.27)	
Ever had sex in Wave I					0.32 *	1.38	0.32 *	1.38
					(0.13)		(0.13)	
<i>n</i>	283,030							

Table 3, Continued. Coefficients of Logistic Regressions Predicting the Timing of Having a First Non-Marital Birth.

	Model 1	OR	Model 2	OR	Model 3	OR	Model 4	OR		
Completed high school					-1.12	*	0.33	-1.12	***	0.33
					(0.12)			(0.12)		
Completed some college					-1.15	***	0.32	-1.15	***	0.32
					(0.20)			(0.20)		
Completed college or more					-1.90	***	0.15	-1.90	***	0.15
					(0.24)			(0.23)		
Ever cohabited					-0.08	***	0.92	-0.08	***	0.92
					(0.11)			(0.11)		
Constant	-2.55	***	-2.93	***	728.32		0.00	-732.22		0.00
	(0.12)		(0.32)		(702.34)			(702.13)		
<i>n</i>										283,030
F-adjusted statistic	25.27		25.20		20.28		22.31			
Prob > F	0.00		0.00		0.00		0.00			

Standard errors in parentheses. *** p<0.001, ** p<0.01, * p<0.05, †p<0.10

Controlling for age, age squared, period, and timing to censoring from age of sexual debut. Maternal education not shown due to insignificance.

^a - Includes items such as most of the time, your mother is warm and loving towards you; your mother encourages you to be independent; when you do something that is important, your mother talks about it with you and helps you understand why it is wrong; you are satisfied with the way you and your mother communicate with each other; overall, you are satisfied with your relationship with your mother.

^b - Includes items such as whether the respondent was allowed to choose who to hang out with, how much TV to watch, which TV programs to watch, which clothes to wear, and what to eat

^c - Includes items such as how your mother would feel about you having sex at this time in your life; how would she feel about you having sexual intercourse with someone special to you like a boyfriend or girlfriend; how would she feel about her using birth control at this time in her life.

Table 4. Logistic Regressions Predicting the Likelihood of Having a Non-Marital Birth for White women

	NH White							
	Model 1	OR	Model 2	OR	Model 3	OR	Model 4	OR
Non-marital birth attitudes in Wave I	0.47 *	1.60	0.30	1.35	0.17	1.19	0.16	1.17
	(0.19)		(0.19)		(0.22)		(0.22)	
Maternal warmth and communication in Wave I^a			-0.10	0.90	-0.03	0.97	-0.05	0.95
			(0.09)		(0.09)		(0.20)	
Maternal permissive attitudes towards sex in Wave I^b			0.33	***	1.39	0.21 *	1.23	0.19
			(0.07)			(0.08)	(0.29)	1.21
Parental control in Wave I^c			0.59		1.80	-0.05	0.95	0.22
			(0.39)			(0.42)	(0.95)	1.25
Maternal warmth x maternal permissive attitudes					-	-	0.01	1.01
					-	-	(0.07)	
Parental control x maternal permissive attitudes					-	-	0.22	1.25
					-	-	(0.95)	
Want to go to college in Wave I					0.15 *	1.16	0.15 *	1.16
					(0.06)		(0.06)	
Generation status (third gen) - Second generation					-0.34	0.71	-0.34	0.71
					(0.26)		(0.26)	
First generation					0.16	1.17	0.17	1.19
					(1.25)		(1.26)	
Family structure (Two-bio) parent - Two parents					0.28	1.32	0.28	1.32
					(0.19)		(0.19)	
Single parent					0.20	1.22	0.20	1.22
					(0.25)		(0.25)	
Other arrangement					0.99 *	2.69	1.00 *	2.72
					(0.42)		(0.42)	
Ever had sex in Wave I					0.48 *	1.62	0.48 *	1.62
					(0.19)		(0.19)	
Completed high school					-1.09 ***	0.34	-1.08 ***	0.34
					(0.15)		(0.15)	
<i>n</i>					169943			

Table 4, Continued. *Logistic Regressions Predicting the Likelihood of Having a Non-Marital Birth for White women*

	Model 1		Model 2		Model 3		Model 4		
	OR	OR	OR	OR	OR	OR	OR	OR	
Completed some college					-1.53 (0.29)	***	0.22 (0.28)	***	0.22
Completed college or more					-2.30 (0.30)	***	0.10 (0.30)	***	0.10
Ever cohabited					0.02 (0.14)		1.02 (0.14)		1.02
Constant	-2.79 (0.12)	* 0.06	-3.11 (0.46)	*** 0.04	1121.07 (750.85)		0.00 (757.87)		1109.82 0.00
<i>n</i>									169943.00
F-adjusted statistic	13.49		15.50		27.70		26.48		
Prob > F	0.00		0.00		0.00		0.00		

Standard errors in parentheses. *** p<0.001, ** p<0.01, * p<0.05, †p<0.10

Controlling for age, age squared, period, and timing to censoring from age of sexual debut. The control maternal education not shown due to insignificance.

^a - Includes items such as you feel close to your mother; most of the time, your mother is warm and loving towards you; your mother encourages you to be independent; when you do something that is important, your mother talks about it with you and helps you understand why it is wrong; you are satisfied with the way you and your mother communicate with each other; overall, you are satisfied with your relationship with your mother.

^b - Includes items such as whether the respondent was allowed to choose who to hang out with, how much TV to watch, which TV programs to watch, which clothes to wear, and what to eat

^c - Includes items such as how your mother would feel about you having sex at this time in your life; how would she feel about you having sexual intercourse with someone special to you like a boyfriend or girlfriend; how would she feel about her using birth control at this time in her life.

Table 5. Logistic Regressions Predicting the Likelihood of Having a Non-Marital Birth for Black women

	NH Black							
	Model 1	OR	Model 2	OR	Model 3	OR	Model 4	OR
Non-marital birth attitudes in Wave I	0.33 †	1.40	0.25	1.28	0.25	1.28	0.25	1.28
	(0.17)		(0.17)		(0.16)		(0.16)	
Maternal warmth and communication in Wave I^a			-0.05	0.95	-0.06	0.94	-0.51 *	0.60
			(0.10)		(0.09)		(0.23)	
Maternal permissive attitudes towards sex in Wave I^b			0.19 *	1.21	0.02	1.02	-0.76 *	0.47
			(0.09)		(0.10)		(0.35)	
Parental control in Wave I^c			0.22	1.25	0.06	1.06	-1.21	0.30
			(0.32)		(0.34)		(0.98)	
Maternal warmth x maternal permissive attitudes					-	-	0.17 *	1.19
					-	-	(0.09)	
Parental control x maternal permissive attitudes					-	-	0.57	1.77
					-	-	(0.42)	
Want to go to college in Wave I					-0.16 †	0.85	-0.16 †	0.85
					(0.09)		(0.09)	
Generation status (third gen) - Second generation					-0.40	0.67	-0.38	0.68
					(0.27)		(0.28)	
First generation					0.41	1.51	0.37	1.45
					(0.89)		(0.90)	
Family structure (Two-bio) parent - Two parents					0.30	1.35	0.27	1.31
					(0.33)		(0.33)	
Single parent					0.54 †	1.72	0.53 †	1.70
					(0.30)		(0.30)	
Other arrangement					0.14	1.15	0.06	1.06
					(0.28)		(0.29)	
Ever had sex in Wave I					0.41 *	1.51	0.35 †	1.42
					(0.18)		(0.18)	
Completed high school					-0.98 ***	0.38	-0.95 ***	0.39
					(0.23)		(0.22)	
<i>n</i>	56446							

Table 5, Continued. *Logistic Regressions Predicting the Likelihood of Having a Non-Marital Birth for Black women*

	Model 1	OR	Model 2	OR	Model 3	OR	Model 4	OR		
Completed some college					-0.77	**	0.46	-0.72	**	0.49
					(0.26)			(0.26)		
Completed college or more					-1.49	***	0.23	-1.52	***	0.22
					(0.32)			(0.31)		
Ever cohabited					-0.51	*	0.60	-0.48	*	0.62
					(0.19)			(0.19)		
Constant	-1.64	***	0.19	-1.86	***	-594.64	0.00	-641.20		0.00
	(0.13)			(0.44)		948.35		(946.45)		
<i>n</i>	56446									
F-adjusted statistic	18.98		18.70		22.40		21.07			
Prob > F	0.00		0.00		0.00		0.00			

Standard errors in parentheses. *** p<0.001, ** p<0.01, * p<0.05, †p<0.10

Controlling for age, age squared, period, and timing to censoring from age of sexual debut. The control maternal education not shown due to insignificance, except for those whose mothers completed some college, who were less likely to have a non-marital birth.

^a - Includes items such as you feel close to your mother; most of the time, your mother is warm and loving towards you; your mother encourages you to be independent; when you do something that is important, your mother talks about it with you and helps you understand why it is wrong; you are satisfied with the way you and your mother communicate with each other; overall, you are satisfied with your relationship with your mother.

^b - Includes items such as whether the respondent was allowed to choose who to hang out with, how much TV to watch, which TV programs to watch, which clothes to wear, and what to eat

^c - Includes items such as how your mother would feel about you having sex at this time in your life; how would she feel about you having sexual intercourse with someone special to you like a boyfriend or girlfriend; how would she feel about her using birth control at this time in her life.

Table 4. Logistic Regressions Predicting the Likelihood of Having a Non-Marital Birth for Hispanic women

	Hispanic											
	Model 1		OR	Model 2		OR	Model 3		OR	Model 4		OR
Non-marital birth attitudes in Wave I	0.85	**	2.34	0.65	*	1.92	0.84	**	2.32	0.84	**	2.32
	(0.31)			(0.32)			(0.31)			(0.31)		
Maternal warmth and communication in Wave I^a				-0.07		0.93	0.01		1.01	-0.05		0.95
				(0.17)			(0.21)			(0.51)		
Maternal permissive attitudes towards sex in Wave I^b				0.25		1.28	0.23		1.26	0.09		1.09
				(0.16)			(0.15)			(0.73)		
Parental control in Wave I^c				-0.49		0.61	-0.87		0.42	-1.11		0.33
				(0.67)			(0.67)			(1.31)		
Maternal warmth x maternal permissive attitudes							-		-	0.03		1.03
							-		-	(0.18)		
Parental control x maternal permissive attitudes							-		-	0.13		1.14
							-		-	(0.79)		
Want to go to college in Wave I							-0.10		0.90	-0.10		0.90
							(0.20)			(0.20)		
Generation status (third gen) - Second generation							-0.05		0.95	-0.05		0.95
							(0.44)			(0.45)		
First generation							-0.52		0.59	-0.52		0.59
							(0.39)			(0.39)		
Family structure (Two-bio) parent - Two parents							-0.04		0.96	-0.04		0.96
							(0.34)			(0.34)		
Single parent							-0.01		0.99	0.00		1.00
							(0.44)			(0.45)		
Other arrangement							0.49		1.63	0.49		1.63
							(0.59)			(0.57)		
Ever had sex in Wave I							-0.45		0.64	-0.44		0.64
							(0.27)			(0.27)		
Completed high school							-1.40	***	0.25	-1.39	***	0.25
							(0.27)			(0.26)		
<i>n</i>												39441

Table 6, Continued. *Logistic Regressions Predicting the Likelihood of Having a Non-Marital Birth for Hispanic women*

	Model 1		OR		Model 2		OR		Model 3		OR		Model 4		OR	
Completed some college									-0.73	0.48			-0.73	0.48		
									(0.56)				(0.58)			
Completed college or more									-0.78	0.46			-0.78	0.46		
									(0.70)				(0.71)			
Ever cohabited									0.50	1.65			0.49	1.63		
									(0.28)				(0.28)			
Constant	-2.36	***	0.09	-2.40	**	0.09	9.64	†	15367.34	16.73	18439395.62		16.73	18439395.62		
	(0.24)			(0.87)			(845.59)			(831.46)			(831.46)			
<i>n</i>	39441															
F-adjusted statistic	8.69		12.67		18.01		18.82									
Prob > F	0.00		0.00		0.00		0.00									

Standard errors in parentheses. *** p<0.001, ** p<0.01, * p<0.05, †p<0.10

Controlling for age, age squared, period, and timing to censoring from age of sexual debut. The control maternal education not shown due to insignificance.

^a - Includes items such as you feel close to your mother; most of the time, your mother is warm and loving towards you; your mother encourages you to be independent; when you do something that is important, your mother talks about it with you and helps you understand why it is wrong; you are satisfied with the way you and your mother communicate with each other; overall, you are satisfied with your relationship with your mother.

^b - Includes items such as whether the respondent was allowed to choose who to hang out with, how much TV to watch, which TV programs to watch, which clothes to wear, and what to eat

^c - Includes items such as how your mother would feel about you having sex at this time in your life; how would she feel about you having sexual intercourse with someone special to you like a boyfriend or girlfriend; how would she feel about her using birth control at this time in her life.

Table 7. Logistic Regressions Predicting the Likelihood of Having a Non-Marital Birth for Asian women

	Asian										
	Model 1	OR	Model 2	OR	Model 3	OR	Model 4	OR			
Non-marital birth attitudes in Wave I	0.88 (0.48)	†	2.4	0.82 (0.58)	2.27	1.73 (0.67)	*	5.64	1.75 (0.72)	*	5.75
Maternal warmth and communication in Wave I^a			-0.86 (0.22)	***	0.42	-0.90 (0.19)	***	0.41	0.45 (0.67)		1.57
Maternal permissive attitudes towards sex in Wave I^b			0.34 (0.31)		1.40	0.79 (0.19)	***	2.20	3.39 (1.50)	*	29.67
Parental control in Wave I^c			-0.25 (1.17)		1.00	-2.10 (0.90)	*	0.12	-5.72 (2.67)	*	0.00
Maternal warmth x maternal permissive attitudes						-		-	-0.76 (0.37)	*	0.47
Parental control x maternal permissive attitudes						-		-	1.83 (1.36)		6.23
Want to go to college in Wave I						-0.27 (0.24)		0.76	-0.37 (0.21)		0.69
Generation status (third gen) - Second generation						1.84 (0.49)	***	6.30	1.69 (0.60)	**	5.42
First generation						0.38 (0.56)		1.46	0.11 (0.71)		1.12
Family structure ((Two-bio) parent - Two parents						0.60 (0.58)		1.82	0.16 (0.57)		1.17
Single parent						-0.60 (0.80)		0.55	-0.67 (0.61)		0.51
Other arrangement						-2.01 (0.93)	*	0.13	-1.54 (1.12)		0.21
Ever had sex in Wave I						-2.09 (0.78)	**	0.12	-1.99 (0.87)	*	0.14
Completed high school						-3.18 (0.41)	***	0.04	-3.14 (0.38)	***	0.04
<i>n</i>	15534										

Table 7, Continued. *Logistic Regressions Predicting the Likelihood of Having a Non-Marital Birth for Asian women*

	Model 1	OR	Model 2	OR	Model 3	OR	Model 4	OR
Completed some college					-0.77	† 0.46	-0.63	0.53
					(0.43)		(0.41)	
Completed college or more					-3.61	0.03	-3.27	* 0.04
					(1.14)		(0.97)	
Ever cohabited					-0.54	0.58	-0.26	0.77
					(0.43)		(0.38)	
Constant	-3.30	*** 0.04	-0.56	0.57	-50.74	0.00	-39.71	0.00
	(0.43)		(1.25)		(52.48)		(50.62)	
<i>n</i>	15534							

F-adjusted statistic 784.82 912.11 483343.64 246325.57

Prob > F 0.00 0.00 0.00 0.00

Standard errors in parentheses. *** p<0.001, ** p<0.01, * p<0.05, †p<0.10

Controlling for age, age squared, period, and timing to censoring from age of sexual debut. The control maternal education not shown due to insignificance.

^a -Includes items such as you feel close to your mother; most of the time, your mother is warm and loving towards you; your mother encourages you to be independent; when you do something that is important, your mother talks about it with you and helps you understand why it is wrong; you are satisfied with the way you and your mother communicate with each other; overall, you are satisfied with your relationship with your mother.

^b - Includes items such as whether the respondent was allowed to choose who to hang out with, how much TV to watch, which TV programs to watch, which clothes to wear, and what to eat

^c - Includes items such as how your mother would feel about you having sex at this time in your life; how would she feel about you having sexual intercourse with someone special to you like a boyfriend or girlfriend; how would she feel about her using birth control at this time in her life.

CHAPTER 5

PARENT-CHILD RELATIONSHIPS AND DEMOGRAPHIC OUTCOMES ACROSS THE LIFE COURSE: CONCLUSION

Parent-Child Relationships and Demographic Outcomes Across the Life Course: Conclusion

The delaying transition to adulthood in the United States has led to growing dependence of children on their parents for contemporary young adults compared to previous cohorts (Furstenberg, 2010). However, it is not known how parent-child relationships influence children's demographic outcomes as they transition from adolescents to emerging and young adults, which motivated the research questions explored in this dissertation. I examined how parent-child relationships influenced interracial relationship and union formation, mental health, and non-marital fertility from adolescence to adulthood. This chapter outlines the importance of understanding the outcomes addressed in the dissertation, contributions to the literature, primary themes from each study, and future research directions that explore the role of parents on children's demographic outcomes in the transition to adulthood. The key themes discussed include the following: the role of parents in the transmission of racial and ethnic inequality, the importance of maternal relationship quality for shaping youth's outcomes, and heterogeneity in parental influence across race, ethnicity, and gender.

The Importance of Understanding Interracial Union Formation, Depressive Symptoms, and Non-Marital Fertility as Outcomes in the Delaying Transition to Adulthood

Although interracial relationship and union formation, depressive symptoms, and non-marital fertility may seem completely unrelated, they are important outcomes to understand and are interrelated given the delaying transition to adulthood. Both interracial relationships and non-marital fertility were viewed with stigma in the United States and went through Supreme Court Cases in the past few decades in order for interracial relationships to be lawful and for children born out of marriage to have equal rights as children born within a marriage. Anti-miscegenation laws were declared unconstitutional with the Supreme Court Case *Loving v. Virginia* in 1967,

while children born outside of a marriage were given equal rights in 1968, with the Supreme Court Case *Levy v. Virginia*. Although attitudes towards intermarriage and non-marital fertility have become more tolerant since these Supreme Court cases (Livingston & Brown, 2017; Treas et al., 2014), parents of contemporary adults may be less tolerant of these outcomes, as they grew up around the time where stigma towards interracial relationships and non-marital births was high. At the same time, as tolerance towards interracial relationships and non-marital fertility has risen, dependence on parents has increased due to the delaying transition to adulthood. A greater proportion of young adults are living with their parents, and depend on them for emotional and instrumental support (Bonnie & Breiner, 2015). Therefore, parents may have more opportunities to exert their values among contemporary young adults, due to greater dependence. Chapters Two and Four assess whether parent-child relationships shape youths' interracial relationship and non-marital fertility outcomes, and I find that parents do influence their children's outcomes.

Mental health, specifically depressive symptoms, are important to consider in the context of the delaying transition to adulthood. During the transition to adulthood, young adults may face stressors in which they may succeed or stumble – finishing high school and college, finding a stable-full time job, living independently, developing long-term relationships, and having children. The uncertainty associated with making these decisions, and how successful the transitions are, may contribute to either improved or worsened overall mental health through stress-related conditions. Therefore, I assess whether parent-child relationships can be an important protective buffer for depressive symptoms in the transition to adulthood. In sum, interracial relationships, non-marital fertility, and mental health are tied to the delaying transition to adulthood, and therefore important outcomes in which to examine the role of parents. The

themes from this dissertation, discussed below, show that parent-child relationships remain an important influence for shaping relationship, fertility, and mental health outcomes.

Theme 1: The Role of Parents in Transmitting Racial and Ethnic Inequality

The first theme from this dissertation is that parents play an important role in maintaining racial and ethnic inequality. In Chapter Two, greater maternal closeness in adolescence was associated with a decreased likelihood of being in an interracial relationship or union in emerging adulthood, but only among White men. In addition, parents' decisions of living in more racially and ethnically diverse neighborhoods in adolescence, measured through relative exogamous group size, was associated with an increased likelihood of interracial relationship and union formation in emerging adulthood. Group positioning (Blumer, 1958), a theory in which Whites wish to maintain their position at the top of the status hierarchy, can operate through mothers exerting their racial and ethnic preferences of their son's romantic partners, or through parental choice of neighborhoods (Holme, 2002). Unpacking how maternal closeness shapes the transmission of parental attitudes and preferences for children to be in a monoracial or interracial relationship is an open question, and is important to consider in future research.

Theme 2: The Importance of Maternal Relationship Quality in Shaping Youth's Outcomes

The second theme that emerges from this dissertation is the importance of maternal relationship quality, particularly maternal closeness and maternal warmth and communication, in shaping youth's relationship, mental health, and fertility outcomes. While greater maternal closeness was associated with a decreased likelihood of interracial relationship and union formation among racial and ethnic minorities (Chapter Two), maternal warmth and communication served as a protective buffer for adolescents who felt disconnected to schools and moderated depressive symptoms in emerging adulthood (Chapter Three). Maternal warmth

and communication was associated with a decreased likelihood of a non-marital birth among Black and Asian women, and moderated the association between maternal permissive attitudes towards sexual activity and the likelihood of having a non-marital birth (Chapter Four). Future research should consider the mechanisms through which maternal relationship quality influences the intergenerational transmission of attitudes among children, and should consider the role of paternal relationship quality on children's demographic outcomes.

Theme 3: Heterogeneity of Parental Influence across Race, Ethnicity, and Gender

The third theme that emerged from this dissertation was the heterogeneity of parental influence across race, ethnicity, and gender on demographic outcomes. Descriptively, differences in means of parent-child relationships emerged across race, ethnicity, and gender. Maternal warmth and communication was highest among Black adolescents, followed by White, Hispanic, and Asian adolescents, while parental control was highest among Hispanic and Asian adolescents (Chapters Three and Four). In Chapter Two, while maternal closeness predicted a decreased likelihood of interracial relationship formation among White men, parental control was associated with an increased likelihood of being in an interracial relationship among Hispanic and Black women. In Chapter Three, higher levels of maternal warmth and communication in adolescence was associated with decreased depressive symptoms among White and Hispanic emerging adults. In Chapter Four, higher levels of maternal warmth and communication associated with a decreased likelihood of a non-marital birth among Black and Asian women. Higher levels of parental control were associated with a decreased likelihood of a non-marital birth, but only among Asian women. In addition, maternal permissive attitudes towards sexual activity in adolescence were associated with an increased likelihood of a NMB among Asian women, but a decreased likelihood of a non-marital birth among Black women. In

sum, parent-child relationships influenced demographic outcomes among all racial and ethnic groups. However, parental control may be more significant among racial and ethnic minority adolescents rather than White adolescents. Unpacking how parental control operates among racial and ethnic minorities is an open question – the finding that parental control was associated with an increased likelihood of being in an interracial relationship among Latinas and Black women is unexpected; whether this operates through rebellion or group positioning is unknown. A shortcoming of the measure of parental control used for these studies was that it was based on aspects that were not directly related to attitudes on interracial relationships or parental monitoring of sexual activity, which may not accurately reflect how parental control operates on the demographic outcomes examined.

Implications and Future Research Directions

In conclusion, rather than expecting parent-child relationships to remain stagnant over the life course, it is important to understand how parent-child relationships evolve over time and contribute to demographic and health outcomes, as well as perpetuate racial and ethnic inequality. Future research should consider how parent-child relationships change from adolescence to adulthood and contribute to health outcomes during key transitions to adulthood, and assess variation by race, ethnicity, and gender. In addition, understanding how parent-child relationships operate within families is important to understand the causal pathways in which parent-child relationships shape demographic and health outcomes. A promising avenue of research is using the Add Health Parent Study to explore linkages between parents and children as children and parents grow older. Parent-child relationships may possibly buffer other health-related conditions beyond mental health, and shape other demographic outcomes beyond interracial union formation and non-marital fertility.

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