PSYCHOSOCIAL ADJUSTMENT IN ADOLESCENCE:
THE IMPORTANCE OF THE FAMILY ECOLOGY

A Dissertation in
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by

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ABSTRACT

Adolescence is a period of development associated with a host of biological, psychological, cognitive, and social changes, and it has been widely acknowledged that the family is a persistent and powerful context in which these changes occur. To further understand the links between the family ecology and youth well-being, each of the three studies comprising this dissertation examined how distinct aspects of family ecology were related to youths’ psychosocial adjustment. Study 1 used a sample of high school students from the National Study of Adolescent Health (N = 7,786) to identify patterns of positive development and examine the role family capital played in these patterns. A four-profile solution revealed Average, High Self-Esteem, Below Average, and High Achiever Profiles. Multinomial logistic regressions revealed that parent human and economic capital predicted increased odds of being in the High Achiever Profile, and social capital predicted increased odds of being in the High Self-Esteem Profile. Moderator analyses produced evidence of cumulative promotive effects by revealing that family social capital exacerbated the benefits of other types of family capital for positive development. Studies 2 and 3 focused on parental knowledge, which refers to the degree to which parents are informed about their youths’ daily experiences. Study 2 explored how youth gender, age, and family members’ relationship quality predicted five sources of mothers’ and fathers’ knowledge in a relatively understudied population: two-parent African American families with two youth (N = 187). Multilevel models revealed that older siblings disclosed less to parents than younger siblings. A quadratic youth age pattern indicated that fathers asked youth fewer questions in early adolescence compared to childhood and later adolescence, which coincided with higher levels of relying on spouse and siblings. Warmer parent-child relationships predicted higher levels of relying on multiple sources of knowledge for mothers and fathers, including child disclosure and solicitation. Drawing from family systems perspective, warmer marital
relationships predicted relying on spouse, and warmer parent-sibling relationships predicted relying on siblings for information. Study 3 took an in depth look at conceptualization and measurement of parental knowledge. Whereas some researchers have measured parents’ or youths’ perceptions of knowledge, others have examined daily knowledge. We therefore examined multilevel models that included three distinct parental knowledge indicators in a sample of European American families with two adolescent youth ($N = 175$). Mothers’, fathers’, and youths’ perceived knowledge were each negatively related to youths’ risky behavior, and youth reported fewer depressive symptoms when mothers and fathers were seen by youth as more knowledgeable. Independent of perceived knowledge, however, when fathers’ daily knowledge was higher, youth reported fewer depressive symptoms. Moreover, when youth perceived fathers to be more knowledgeable, fathers’ daily knowledge was not linked to youths’ risky behavior, but when youth saw their fathers as less knowledgeable, fathers’ daily knowledge was related to less engagement in risky behavior. Studies conclude with a discussion of limitations of the research and implications for future research, policy, and intervention work.
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CHAPTER 1

Integrative Review
Psychosocial Adjustment in Adolescence: The Importance of the Family Ecology

This research primarily focused on the links between adolescents’ psychosocial adjustment and the family ecology. The family ecology encompasses the dynamic set of circumstances and relationships that exist within the family system. Youths’ psychosocial adjustment includes domains of including youths’ academic achievement, externalizing behaviors, and mental health indicators, such as depressive symptoms and self-esteem. The ecological framework initially introduced by Bronfenbrenner (1979) asserts that the contexts in which an individual resides can either facilitate or hinder development. Although there are many contexts that impact youth, one cannot understand development without considering the family context, as the family is a persistent and powerful context for youths’ socialization (Parke & Buriel, 1998).

Adolescent Development within the Family Context

Adolescence is a unique period of the life span in which youth explore a newfound independence and self-reliance, prepare for future career paths, and experience evolving relationships with peers and family members. Consequences of adolescents’ decisions can affect their life course trajectories both for better (e.g., academic decisions impacting future educational attainment) and for worse (e.g., youths’ risky behavior impacting long-term physical health; DiClemente et al., 2001; Steinberg et al., 2006). Not only is adolescence marked by sharp increases in risky behavior (McCord, 1990) and depressive symptoms (Ge, Conger, & Elder, 2001), but adolescence is also a period in which positive qualities develop, including school bondedness (Libby, 2004) and self-esteem (Harter, 2006).

Previous research has highlighted multiple pathways through which the family ecology shapes youths’ psychosocial development, including parent-child (Chen & Thompson, 2007) and
sibling relationships and interactions (Milevsky & Levitt, 2005), parenting practices (Roche, Ahmed, & Blum, 2008), parents’ individual characteristics (Hayward et al., 2008), and parents’ roles as direct instructors and managers of their children’s experiences (Park & Buriel, 1998). Youths’ transitions in adolescence bring about a renegotiation of boundaries and relationships within the family. As Steinberg and Silk (2002, p. 103) noted, “[Adolescence] challenges the emotional resources of even the most well-functioning families.” These adjustments, alongside the negative stereotypes that exist about adolescence more broadly (Buchanan, 2003), help explain why many parents report being apprehensive about parenting adolescents (Pasley & Gecas, 1984).

Of course, these family effects are not necessarily unidirectional from parents to children. Bell’s (1968) classic work highlighted the importance of child effects; he argued that children are not passive reactors of their surroundings. In a recent study, for example, Whiteman and colleagues (2007) found that parents’ marital quality declines when their firstborn child goes through puberty, which speaks not only to the renegotiation that occurs in the family during adolescence, but also to the impact youth have on their family ecology. Youths’ unique combination of characteristics not only evokes particular reactions from others, but, beginning in childhood and adolescence, youth actively seek out environments that suit their characteristics (Scarr & McCartney, 1983). More recent research has gone beyond the focus of parent and child effects and has explored the interplay between parents and youth that shape both the family ecology and youths’ psychosocial adjustment (e.g., Crouter, Head, McHale, & Tucker, 2004; Peris & Emery, 2004). This research explored this interplay between the family ecology and youth development.

We furthered our understanding of the links between the family ecology and youths’
adjustment by conducting three unique studies on diverse samples of youth. Research questions
and hypotheses were grounded in both family systems theory and capital theory. Moreover, a
person-oriented and variable-oriented approach was used to explore indicators of positive and
negative adjustment in youth. Links between youth well-being and diverse aspects of the family
ecology, including family members’ relationship quality, family income, parents’ education, and
parental knowledge were investigated.

*Theoretical Background*

In addition to framing this research within Bronfenbrenner’s (1979) ecological
framework, two theoretical perspectives were incorporated into this work. First, family systems
theory (FST) emphasizes the interconnectedness of the family system and highlights both the
direct and the indirect influences family members have on each other, on dyads within the
family, and on the family as a whole (Cox & Paley, 2003). FST suggests that a full
understanding of a system requires going beyond examining only one part of the system at one
time (White & Klein, 2002). In contrast, developmental research has historically examined one
dyad, or sub-system, of the family in isolation (e.g., parent-child dyad). FST emphasizes the need
to examine multiple dyads and triads at the same time to more thoroughly understand the family
as a whole.

This set of studies was based on FST by investigating the associations between mother-
child and father-child relationship quality and family support and positive development in youth
(Study 1), the links between family members’ relationship quality and sources of parental
knowledge (Study 2), and the unique contributions of mothers’ and fathers’ knowledge for
adolescent well-being (Study 3). To accurately capture the complexity of the family system,
these studies used data from multiple informants within the family, as FST holds that family
members often experience the same family context differently (Minuchin, 1988).

The second theory that informed this research, family capital theory, states that the amount and type of resources within families are related to youth development. Coleman (1988, p. 101) defined capital as a host of resources that “facilitate productive activity” in individuals. There are multiple types of capital, all of which can be considered on a macro and micro level (Crosnoe, 2004). For the purposes of the present research, however, the concept of capital is applied to the resources available within the family. Whereas human capital represents individuals’ (or in our case, parents’) skills and abilities, social capital is defined by the information, norms, and/or support/encouragement that are exchanged in the context of relationships. Finally, economic capital refers to monetary resources or wealth.

Study 1 applied Family Capital Theory to the study of PYD and aimed to understand how different types of capital within the family were linked to profiles of positive development qualities in youth. As such, analyses explored how human (parent education), social (mother-child and father-child relationship quality, family supportiveness), and economic (family income) capital predicted multidimensional profiles of positive development in high school aged youth.

Contributions to the Literature

One contribution of this research lies in the examination of youth well-being in three diverse samples of adolescents. Youth in Studies 2 and 3 resided in stable two-parent families in which both mothers and fathers were involved in their daily lives. The ethnic composition of these samples was either almost exclusively African American (Study 2) or European American (Study 3). Examining these cultures independently allowed for within-group variability to unfold without any assumptions that the majority group functions in the right way, a danger of

Alternatively, Study 1 used data from a nationally representative sample of youth (Add Health). Using this data set ensured that conclusions were generalizable to youth across the United States, a benefit not possible in smaller, non-representative studies.

A second contribution of this set of papers is their examination of both positive and negative indicators of youth well-being. Understanding the etiology of negative well-being indicators, including depressive symptoms and risky behavior, is important because of their sharp increase in adolescence (Ge et al., 2001; McCord, 1990). Moreover, these behaviors can have deleterious long-term implications for youth and for society more broadly (Steinberg et al., 2006). This research explored how three indicators of parental knowledge, a construct consistently linked to youth well-being (Crouter & Head, 2002), uniquely predicted youths’ risky behaviors and depressive symptoms (Study 3).

However, Pittman and Irby (1998, p. 160) argued that "Problem free is not fully prepared." One cannot assume that youth who are not engaging in negative behaviors are thriving. Larson’s (2000) work noted the high rates of boredom and disconnectedness in adolescents, many of whom are not necessarily engaging in negative risk-taking behaviors.

Positive youth development is a burgeoning area of study, with researchers attempting to understand the etiology of many different positive qualities in youth. We furthered this work by exploring profiles of five indicators of positive development, including school grades, school bondedness, self-esteem, constructive activity participation, and physical health (Study 1).

This research’s third contribution is its incorporation of both a variable-oriented (Studies 2 and 3) and a person-oriented approach (Study 1) to examine the links between the family ecology and youth adjustment. Human development research has historically relied on a
variable-oriented approach, although both approaches are necessary to obtain a thorough understanding of youth well-being. A variable-oriented approach isolates between-person associations between two variables or determine the relative contributions of one variable in predicting another variable across a sample of individual or families (Laursen & Hoff, 2006). In this work, multilevel modeling was used to explore predictors of individual differences in the sources of parental knowledge (Study 2) and the relative influence of three indicators of parental knowledge for youths’ risky behavior and depressive symptoms (Study 3). Alternatively, a person-oriented approach aims to describe patterns of individual qualities and experiences with the goal of providing a more holistic portrait of youth (Whiteman & Loken, 2006). Latent profile analysis was used to determine the different profiles of five positive development qualities in youth, information that would be lost by using a variable-oriented approach (Study 1). The importance of understanding the links between the family ecology and youth adjustment merits both a person-oriented and variable-oriented approach.

**Conclusion**

Without question, the influence of the family system on youth well-being is immense, as families have the potential both to enhance and discourage the development of youth. Moreover, children are active agents in family systems that shape the family ecology. Together, these studies better clarify the links between the family ecology and both negative and positive indicators of well-being in three distinct samples of youth. The findings from these papers can be used to help inform parents, educators, policy makers, and interventionists as to how to effectively structure the family ecology to promote well-being in youth.
References


CHAPTER 2

The Role of Family Capital in Profiles of Positive Development in Youth

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Abstract

This study applied a person-oriented perspective to the study of positive development in adolescence. Using data from the *National Study of Adolescent Health (N = 7,786)*, we first identified patterns of five positive youth development indicators (school grades, school bondedness, self-esteem, constructive activity participation, physical health) using Latent Profile Analysis. A four-profile solution revealed Average, High Self-Esteem, Below Average, and High Achiever Profiles. We then explored the family human, social, and economic capital as possible predictors of youths’ profile membership the following year. Results indicated that parent human and economic capital predicted increased odds of being in the High Achiever Profile. In contrast, social capital predicted increased odds of being in the High Self-Esteem Profile. Moderation analyses revealed that social capital exacerbated the benefits of other types of family capital for positive development. Discussion highlights the multiple profiles of youth qualities that must be considered in endeavors to promote youth positive development.

Key Words: positive youth development, parent education, family income, capital, adolescence, family relationships
The Role of Family Capital in Profiles of Positive Development in Youth

Adolescence is a time of significant transformation as youth experience a multitude of biological, psychological, cognitive, and social changes. Most research, however, has focused on examining youths’ negative behaviors and characteristics (e.g., Harris, Duncan, & Boisjoly, 2002). Research on positive youth development (PYD) grew out of a dissatisfaction with this approach and has examined the etiology of positive qualities to better inform policy makers, interventionists, and practitioners about how to promote positive adjustment and growth (Larson, 2000).

In recent years, developmental science has taken great strides in understanding PYD by relying on a variable-oriented approach (e.g., Damon, 2004), which highlights associations among variables in an effort to identify correlates of PYD for youth as a group. A person-oriented approach is another way to examine PYD, one that is directed at describing patterns of individual qualities and experiences with the goal of providing more holistic portraits of youth (Laursen & Hoff, 2006). In this study, we used a person-oriented approach to determine whether and how positive traits combine, whether there are meaningful group different in patterns, and whether family capital correlates of the patterns.

Using data from the National Study of Adolescent Health, we first used Latent Profile Analysis (LPA) to identify profiles of youth who differed in their patterns of five PYD qualities: school grades, school bondedness, self-esteem, constructive activity participation, and physical health. Because the family is one of the most important influences on youth (Parke & Buriel, 1998), we applied a family capital perspective (Coleman, 1988, 1990) to explore how family human, social, and economic capital predicted PYD profile membership across a one-year period.
Approaches to the Study of PYD

Research on adolescence has generally examined what has gone wrong instead of what has gone right, an approach that has helped fuel pessimistic beliefs about adolescence as a time of storm and stress (Buchanan, 2003). Alternatively, the PYD paradigm holds that all youth have the potential to develop positive qualities, and that youths’ strengths and talents are differentially optimized: Whereas some youth successfully develop their positive qualities, others face barriers that hinder their growth and expression (Lerner et al., 2005). To date, a multitude of studies has explored factors associated with the optimization of positive qualities in youth (e.g., Eccles & Gootman, 2002; Suldo & Huebner, 2004). These studies are predicated on the assumption that positive development is not solely indicated by the absence of negative adjustment in youth. For example, youth who are bored and unmotivated, although not necessarily engaging in negative, risky behavior, do not exhibit positive development (Larson, 2000).

Research has yet to describe patterns of positive qualities in youth, because the majority of research has examined PYD using a variable-oriented approach. An example of a variable-oriented research question is, “Does parent-child relationship quality predict youths’ self-esteem?” This approach tends to focus on one outcome at a time and assumes that predictors are linked to outcomes in the same way for all individuals (Laursen & Hoff, 2006). Results from variable-oriented studies are interpreted with respect to the covariates of interest (e.g., “Youth with warmer parent-child relationships also have higher self-esteem, compared to other youth”).

A person-oriented approach, in contrast, provides a more holistic picture of development by identifying profiles of individuals who share particular qualities. A person-oriented approach holds that the patterns of qualities in individuals are essential for more fully understanding development (Laursen & Hoff, 2006). That is, the presence/absence of one particular trait or
experience may not have the same implications when combined with the presence/absence of certain other traits. In addition, a person-oriented approach does not assume that all variables operate the same way for all individuals.

This study aims to advance the PYD field by identifying profiles of youth who vary systematically across five PYD indicators: school grades, school bondedness, self-esteem, constructive activity participation, and physical health. These positive qualities were chosen to represent two main domains of youths’ activities: school involvement (school bondedness, academic achievement), and leisure, represented by youths’ free-time use, or constructive activity participation (Larson & Verma, 1999). We also explored both psychological (self-esteem) and physical (health) well-being. We studied these qualities in a sample of high school students, a key period for the development of positive qualities (Collins & Steinberg, 2006).

School grades, one of the most heavily studied aspects of positive development, is an important component of long term well-being, as youth establish the groundwork for their future educations and occupations in adolescence (Steinberg et al., 2006). School grades reflect youths’ achievement-orientation, work ethic, school attendance, completed homework, and on-task behavior in school (Dotterer, McHale, & Crouter, 2007). Academic achievement in adolescence is linked to both adult income (Ceci & Williams, 1997) and friends’ grades (Kurdek, Fine, & Sinclair, 1995). Whereas boys have historically had higher levels of academic achievement than girls, it appears that the tide may be changing. More recent evidence suggests that girls are achieving at higher levels than boys (Dwyer & Johnson, 1997; Sommers, 2000).

School bondedness, or attachment, is an aspect of school orientation that reflects youths’ sense of belonging at their school (Libby, 2004). Because youth spend a large amount of time in school, how they feel about their school experiences can affect their academic motivation and
school engagement. Students who feel more connected to their school are more likely to exert effort, resulting in higher levels of academic achievement and lower levels of school problems (Finn & Rock, 2007). Higher levels of school bondedness are also associated with non-academic outcomes, including lower physical and relational aggression (Hill & Werner, 2006), depression, and social rejection (Anderman, 2002).

*Self-esteem* reflects individuals’ appraisals of their worth. Self-esteem has been positively linked to a variety of qualities in youth, including constructive social interactions and an ability to cope with stress, and negatively linked to qualities including risky behavior and depressive symptoms (Haney & Durlak, 1998). Harter (2006) identified two bases for high self-esteem: competence in domains of perceived importance and support and approval from significant others. A number of studies have revealed gender differences in self-esteem, with boys reporting higher self-esteem than girls (e.g., Kling, Hyde, Showers, & Buswell, 1999).

*Constructive activity participation* is a fourth characteristic that has been examined within the PYD paradigm. Involvement in constructive activities reflects individuals’ values, preferences, as well as the opportunities/constraints in the social context. Youths’ activity participation can foster identity exploration (Kleiber, 1999), promote physical health and psychological growth (Barber, Stone & Eccles, 2005), provide opportunities for skill development (Larson & Verma, 1999), and connect youth to other peers who share common interests (Larson, 1994). As Bronfenbrenner (1979) argued, daily activities are both a cause and a consequence of development. Involvement in constructive activities is therefore a key indicator of positive development.

A final component of well-being that is sometimes over-looked by social scientists is youths’ *physical health*. Adolescence is one of the most healthful times in the life span. Most
threats to youths’ health are a function of their own risky behavior. Some adolescents, however, have chronic health problems that affect their daily functioning, including arthritis and asthma (Steinberg, 2005). Additionally, youth vary in their access to health care (Ozer, Macdonald, & Irwin, 2002). Good health affords youth the ability to fully invest in school, relationships, and extracurricular activities.

In sum, the five PYD indicators examined here represent two main domains of youths’ activities (school and leisure) as well as youths’ psychological (self-esteem) and physical (health) well-being. These traits, however, do not develop uniformly in youth. We predicted that the LPA would reveal a low profile, in which youth were below average on all five positive indicators, and a high profile, in which youth were above average on all five positive indicators. We were especially interested, however, in profiles that included different patterns of above average traits. Such patterns might indicate that there are different ways in which youth positively develop. We had no a priori hypotheses regarding the composition of these profiles, however, as no research that we know of has examined combinations of positive youth qualities. As elaborated below, we also studied how patterns of youth qualities were related to human, social, and economic capital within families.

*The Role of Capital in PYD*

Capital refers to resources that “facilitate productive activity” in individuals (Coleman, 1988, p. 101). The capital framework combines two tenets of human development research: (a) Individuals are shaped by the norms, culture, and expectations in their environments, and (b) Individuals are active agents who act independently based on their own will and desires. Research dating back to the 1960’s has consistently found that higher levels of capital are linked to positive outcomes for youth, including youths’ social adjustment (Parcel & Dufur, 2001) and
cognitive development (Menaghan & Parcel, 1991). To date, however, little research has applied capital theory to profiles of positive development in youth.

Youth can draw on many types of capital that are differentially present in various contexts of their lives. In this study, we examined how different types of capital within the family context may promote positive development in youth. Families vary greatly in the amounts and types of capital they have available. We explored the implications of three types of family capital: human capital (parent education), social capital (parent-child relationship quality, family support), and economic capital (family income) for youth PYD patterns.

Human capital “is created by changes in persons that bring about skills and capabilities that make them able to act in new ways” (Coleman, 1988, p. 100). We examined how parent human capital, as indexed by education level, predicted profiles of youths’ positive qualities. Prior variable-oriented research found links between parent education and the PYD indicators examined here (e.g., Bartko, & Eccles, 2003; Johnson, Crosnoe, & Elder, 2001; Kantamaa, Tammelin, Nayha, & Taanila, 2007), indicating the importance of careful consideration of this variable.

Social capital within the context of families refers to “the bonds between parents and children that are useful in promoting child socialization” (Parcel & Dufur, 2001, p. 33). For example, warm parent-child relationships have been linked to higher levels of positive qualities in youth, including self-esteem (Barber, Hall, & Armistead, 2003), academic achievement (Forehand, Long, Brody, & Fauber, 1986), and physical health (Ackard, Neumark-Sztainer, Story, & Perry, 2006). Positive parent-child relationships may relate to PYD because “supportive relationships entail commitments to render assistance when needed” (Mooney, Laursen, & Adams, 2007, p. 196). We examined the links between social capital, as indexed by mother-child
and father-child relationship quality and family support, and positive development in youth. Because mother-child and father-child relationships become increasingly different in adolescence (Russell & Saebel, 1997), we examined mother-child and father-child relationship warmth as distinct types of social capital within the family.

A final type of family capital is economic capital, which is reflected in family income or wealth. Financial resources can relate to multiple domains of youth development. Financial resources may impact a family’s ability to provide experiences and opportunities for youth that may promote positive development, such as involvement in constructive activities (Pedersen, 2005). Moreover, other work has found beneficial effects of family income on the positive qualities studied in this investigation (e.g., Birndorf, Ryan, Auinger, & Aten, 2005; Orr, 2003); we expanded this work by examining whether family economic capital was related to patterns of positive development in youth.

Human, social, and economic capital can all uniquely contribute to youths’ positive development, but they also are interdependent. As Coleman (1988, p. 110) argued, “If the human capital possessed by parents is not complemented by social capital embodied in family relations, it is irrelevant to the child’s educational growth that the parent has a great deal, or a small amount, of human capital.” The risk and resilience literature highlights the idea of cumulative risk in which the collective effects of risk factors operating in combination are examined. We extended this framework to the promotive effects of family capital and hypothesized that different types of family capital accumulate to promote positive development. We explored this idea by examining how each type of capital, alone and in combination, predicted PYD profile membership.
Youth Gender as a Moderator

We also explored whether the links between family capital and PYD were moderated by youth gender. Why would the associations between family capital and PYD differ for boys and girls? Our ideas are informed by recent work highlighting the risks associated with being male in the United States today (see review by Sommers, 2000). For example, boys are on the weak side of the gender gap in education and are less likely to go to college. Moreover, boys are more frequently diagnosed with conduct disorders and are more heavily involved in alcohol, drugs, and crime than girls (Sommers). Because of findings like these, we proposed that boys may benefit more from family capital in the promotion of PYD than girls. We examined this hypothesis by testing the moderating impact of gender on the links between family capital and the patterns of positive qualities in youth.

Summary of Research Questions

In sum, this study addressed three questions:

1. Are there groups of youth who differ in their patterns of positive qualities?
2. How do family human, social, and economic capital, both alone and in combination, predict patterns of PYD across a one-year period? Do the associations between family capital and PYD differ for boys vs. girls?

Method

Participants

Data came from the National Longitudinal Study of Adolescent Health which explored influences on health-related behaviors in a nationally representative sample of youth (Bearman, Jones, & Udry, 1997). The original participants were obtained from a stratified random sample
of 52 schools across the United States. The targeted schools were variable with respect to geography, school type, metropolitan status, racial composition, and size.

We limited the sample to 10th - 12th graders at Wave II (who were 9th - 11th graders at Wave I) so as to examine a more homogeneous group with respect to developmental status ($N = 8,416$). Additionally, because no established methods exist to perform LPA on multiply imputed data, only adolescents with complete data on the five PYD indicators were included in the sample, yielding 8,304 adolescents (see Amato et al., in press, for an example of this approach). Finally, because several populations were over-sampled, follow-up analyses were computed with normalized sampling weights; we deleted youth who did not have sampling weights, which brought the final sample to 7,786 adolescents (Chantala & Tabor, 1999).

The sample consisted of roughly equal percentages of males (49.04%) and females and 10th (31.21%), 11th (35.46%), and 12th (33.33%) graders. Approximately half of the sample was White/Non-Hispanic (52.06%); African American (20.32%), Hispanic (18.15%), and Other (9.47%) youth comprised the remaining sample. Most youth lived in homes with someone they identified as a mother/mother figure (95.22%) and a father/father figure (73.18%).

**Procedure**

Data from Add Health home interviews in Wave I (collected 1994 - 1995) on family capital indicators and from Wave II (collected 1995 - 1996) on PYD indicators were used in this study. In both Waves I and II, computer-assisted technology was used to protect youths’ privacy for sensitive questions. Additionally, one parent, usually the biological mother, was interviewed at Wave I. Response rates were 78.9% (Wave I) and 88.1% (Wave II).

**Measures**

*PYD indicators.* School grades were an aggregate of youth reports of their grades in
English or Language Arts, Math, History or Social Studies, and Science (1 = A, 2 = B, 3 = C, 4 = D or lower; α = .87). Self-reported grades are subject to some degree of bias in that youth may have a tendency to overestimate their grades. Dornbusch and colleagues (1997), however, found high correlations (r < .75) between self-reported grades and school-reported grades, validating this measurement approach. *School bondedness* was obtained with five items (e.g., “You feel like a part of your school”; Cronbach’s α = .89) that were rated on a scale ranging from 1 (strongly agree) to 5 (strongly disagree). *Self-esteem* was measured with eight items indicating youths’ self-appraisals in different areas of their lives (α = .87). A sample item, rated on a scale ranging from 1 (strongly agree) to 5 (strongly disagree), was “You like yourself just the way you are.” *Constructive activity participation* was measured with four items, including “During the past week, how many times did you do hobbies, including collecting baseball cards, playing a musical instrument, reading, or doing arts and crafts?” that were rated on a scale ranging from 0 (not at all in the past week) to 3 (five or more times in the past week). Because of the list-wise nature of activity participation, Cronbach’s α was not an appropriate reliability indicator for these items. The correlation between the activity measure at Wave I and Wave II was r = .48, p < .001, indicating stability in youths’ ratings. *Physical health* was obtained from youths’ ratings of the frequency of 15 physical symptoms over the previous 12 months (e.g., “How often have you had a stomach ache or upset stomach?” α = .80). Individual health items were standardized as items were answered on different scales; the standardized items were then averaged. High scores indicated high levels of the positive qualities (e.g., better physical health). *Z-score* transformations of all PYD indicators were used to assist in the interpretation of the profiles.

*Parent human capital.* A parental figure reported on his/her highest level of achieved education. Possible response categories included: (a) never went to school (.07%), (b) 8th grade
or less (6.77%), (c) more than 8th grade but did not graduate from high school (9.03%), (d) went to a trade school instead of high school (.85%), (e) completed a GED (3.15%), (f) high school graduate (24.55%), (g) went to a trade school after high school (9.43%), (h) went to college but did not graduate (20.43%), (i) graduated from college/university (15.60%), and (j) professional training beyond a four year college/university (10.10%). Of the parents who completed the interview, 87.89% were biological mothers, 7.16% were mother-figures, 4.63% were biological fathers, and .31% were father-figures.

Social capital. Family support was measured with four items (e.g., “How much do you feel that your parents care about you?”) that youth rated on a Likert scale ranging from 1 (not at all) to 5 (very much). Cronbach’s α was .76. Mother-child relationship quality was measured with four items including “Most of the time, your mother is warm and loving towards you”; these items were rated on a five-point Likert scale (α = .85). Finally, father-child relationship quality was assessed with three similar items, including “You are satisfied with the way your father and you communicate with each other” (α = .89). The above scales, which were transformed into Z-scores, were rated such that high scores indicated high levels of social capital.

Economic capital. Total family income was assessed by asking a parent figure to report their total family income in 1994 before taxes. We used a log transformation, because the variable was centered to the left of the mean. Data were then transformed into Z-scores.

Controls. Youth ethnicity was reported by youth at Wave I. We included ethnicity as a control variable because of the differential opportunity structure and experiences of racism/discrimination for minority youth (National Research Council, 1993). Ethnicity was dummy-coded into: (0) White/Non-Hispanic, and (1) other. Previous research has also documented links between family structure and social capital (e.g., Amato & Booth, 1996) and
economic capital (e.g., Demo & Acock, 1996). We included a father presence dummy coded variable to control for these effects (0 = father/father figure present; 1 = no father/father figure present).

Results

Results are organized by research questions. After a brief discussion of missing data, we first present the results from the LPA and describe the patterns of positive qualities in youth. We then present the multinomial logistic regression analyses that examined the role of family capital in promoting these patterns.

Missing Data Analysis

The participants had complete data on the variables included in the latent profile analysis (Uebersax, 2008). Because of missingness on the family capital indicators, however, we performed multiple imputation to create five distinct data sets. Multiple imputation is advantageous over list-wise deletion because it increases statistical power and maintains the representativeness of the sample, a strength of the Add Health data set (Graham & Collins, 2007). Resulting coefficients were aggregated from the five data sets.

Preliminary Analyses

Table 2.1 depicts the correlations between the variables of interest. In part because the number of participants in this study is large, most of the correlations were statistically significant. The correlations did differ, however, in magnitude. For example, the correlations between physical health, school grades, and constructive activity participation were low (\( r \leq .10 \)), whereas slightly stronger associations were found between school grades and self-esteem (\( r = .15 \)). School bondedness was correlated with youths’ grades at \( r = .20 \). All of the PYD indicators were positively correlated, but none of the correlations between PYD indicators were
above .35, suggesting that these qualities did not develop the same way for youth.

We also examined the correlations between the family capital indicators. As expected, family income and parent education were moderately correlated \((r = .41)\). Moderate correlations were also found between the three social capital indicators (family support, mother-child and father-child relationship quality; \(r \geq .37\)). Results indicated no significant links between parent education and social capital, or between parent-child relationship quality and family income.

*Latent Profile Analysis Results*

Mplus (Muthén & Muthén, 2007) produced a four-profile solution as the optimal solution based on three criteria: (a) this solution had the lowest fit criteria, (b) each latent profile had an adequate sample size, and (c) the solution made intuitive sense. In addition, the solution was determined to be sufficiently stable. We computed a series of Pearson chi-square tests by youth gender, \(\chi^2(3, N = 7786) = 185.54, p < .001\), ethnicity, \(\chi^2(3, N = 7786) = 55.54, p < .001\), and father presence, \(\chi^2(3, N = 7784) = 67.23, p < .001\) to better understand the characteristics of youth in these profiles.

Means and variances for the latent profiles are illustrated in Table 2.2 and Figure 2.1. The first profile, labeled the *Average Profile*, represented 36% of the sample; these youth were slightly above average on physical health and school bondedness and slightly below average on school grades, self-esteem, and constructive activity participation. This profile included a relatively equal proportion of boys (51.81%) and girls and White/Non-Hispanic (49.89%) and other youth. About three-fourths (72.95%) of these youth reported a father/father figure present in their home.

Adolescents in the *High Self-Esteem Profile* (24%) scored above average on all qualities, but were especially noteworthy in their self-esteem ratings. Youth in this profile also had the
highest school bondedness scores. This profile included more boys (59.27%) than girls, but there were no differences by youth ethnicity (White/Non-Hispanic: 51.66%; other: 48.34%). Similar to the Average Profile, about three fourths (75.93%) of these youth had a father/father figure present in their home.

The Below Average Profile, represented 30% of the sample; these adolescents scored below average on all five positive qualities. This profile included more girls (59.71%) than boys. Youth in the Below Average Profile did not differ as a function of ethnicity (White/Non-Hispanic: 50.96%; other: 49.04%), and 68.36% of these youth lived in households in which a father/father figure was present.

Finally, youth in the High Achievers Profile (9%) were noteworthy in their high school grades and school bondedness; their other qualities were slightly above average. These youth in were more likely to be girls (60.28%) and to be White/Non-Hispanic (65.06%), and 82.48% of these youth lived in households with a father/father figure present.

We also examined whether the profiles varied by school grade, $\chi^2 (6, N = 7786) = 10.89$, $p < .10$; the Pearson chi-square reached only a trend level, and results showed that about one third of youth in each profile were in each of the three grades (Profile 1: Grade 10 = 30.53%; Grade 11 = 36.69%; Grade 12 = 36.38%; Profile 2: Grade 10 = 25.47%; Grade 11 = 24.16%; Grade 12 = 23.78%; Profile 3: Grade 10 = 30.58%; Grade 11 = 30.53%; Grade 12 = 29.36%; Profile 4: Grade 10 = 8.64%; Grade 11 = 8.62%; Grade 12 = 10.67%). Given that differences by youth grade were not meaningful, this factor was not controlled for in subsequent analyses.

A series of one-way ANOVAs revealed that the means of each PYD indicator differed significantly across each latent profiles: school grades, $F (3, 7784) = 946.11, p < .001$; school bondedness, $F (3, 7784) = 1691.15, p < .001$; self-esteem, $F (3, 7784) = 433.13, p < .001$;
constructive activity participation, $F(3, 7784) = 241.05, p < .001$; physical health, $F(3, 7784) = 948.92, p < .001$. Follow-up Tukey tests indicated that the means were all significantly different across profiles.

**The Role of Family Capital in Latent Profile Membership**

Table 2.2 presents the unstandardized means of each family capital indicator in each profile. We computed a series of multinomial logistic regressions to determine whether the family capital predictors differentially predicted profile membership. To predict profile membership, we first entered the controls and youth gender into the model, followed by family capital indicators (See Table 2.3). We then examined two-way interactions between (a) youth gender and the family capital indicators, and (b) between the family capital indicators themselves. Interactions were tested in individual models (See Table 2.4). Analyses were computed with the High Self-Esteem, Below Average, and High Achiever Profiles serving as the reference group, providing a complete set of comparisons among profiles.

**Control variables.** Boys had higher odds of being in the Average and the High Self-Esteem Profiles than the High Achiever and Below Average Profiles. Girls were more likely to be in the Average, the Below Average, and the High Achiever Profiles than the High Self-Esteem Profile.

Minority youth had increased odds of being in the Average, the High Self-Esteem, and the Below Average Profiles than the High Achiever Profile compared to White/Non-Hispanic youth. Minority youth also had increased odds of being in the Average Profile than the Below Average Profile and decreased odds of being in the High Achiever Profile than the Below Average Profile. They also had decreased odds of being in the High Achiever Profile compared to the High Self-Esteem Profile.
Youth without father figures in their homes were more likely to be in the Average, the High Self-Esteem, and the Below Average Profiles compared to the High Achiever Profile. They also were less likely to be in the Average, the High Self-Esteem, and the High Achiever Profiles compared to the Below Average Profile. Finally, youth were more likely to be in the Below Average Profile and less likely to be in the High Achiever Profile compared to the High Self-Esteem Profile if they did not have a father/father figure in their home.

*Family capital indicators.* Having a better educated parent was linked to decreased odds of being in the Average, the High Self-Esteem, and the Below Average Profiles compared to the High Achiever Profile. Alternatively, youth had higher odds of being in the Average, the High Self-Esteem, and the High Achievers Profiles compared to the Below Average Profile when they had a better educated parent. Finally, youths’ odds of being in the Average and the Below Average Profiles decreased, but their odds of being in the High Achievers Profile compared to the High Self-Esteem Profile increased when they had a better educated parent.

All three social capital indicators were significant independent predictors of latent profile membership. Higher levels of family support predicted increased odds of assignment to the High Self-Esteem Profile and decreased odds of assignment to the Below Average Profile compared the High Achiever Profile. Moreover, youth with higher family support had increased odds of being in the Average, the High Self-Esteem, and the High Achiever Profiles compared to the Below Average Profile. Results revealed the reverse pattern when the High Self-Esteem Profile served as the reference group: Youths’ odds of being in the Average, the Below Average, and the High Achiever Profiles decreased with higher family support compared to the High Self-Esteem Profile.
A similar pattern was found for mother-child relationship quality. Consistent with our theory about cumulative support, warmer mother-child relationships were linked to youths’ membership to the High Self-Esteem Profile than the other profiles. Interestingly, mother-child relationship quality did not distinguish between membership to the High Achiever, the Average, and the Below Average Profiles.

Youth with warmer relationships with their fathers were less likely to be in the Below Average Profile compared to the High Achiever Profile. Warmer father-child relationships were also linked to increased odds of being in the Average, the High Self-Esteem, and the High Achiever Profiles compared to the Below Average Profile. Alternatively, warmer father-child relationships were linked to decreased odds of being in the Average and the Below Average Profiles compared to the High Self-Esteem Profile. Father-child relationship quality did not distinguish between the High Self-Esteem and the High Achiever Profiles.

Finally, higher family income was linked to decreased odds of being in the Average, the High Self-Esteem, and the Below Average Profiles compared to the High Achiever Profile. Similarly, higher family income was linked to increased odds of being in the High Achiever than the Below Average Profile, and the High Achiever than the High Self-Esteem Profile. Family income did not distinguish between membership in the High Self-Esteem, the Average, or the Below Average Profiles.

We also examined the two way interactions between (a) youth gender and the family capital indicators, and (b) between the family capital indicators themselves. Five out of fifteen interactions were significant.

First, an interaction between youth gender and parent education significantly predicted profile membership. To follow up, we examined the links between parent education and profile
membership separately for boys and girls (See Table 2.4). Analyses revealed that having a better educated parent was linked to increased odds of boys being in the Average and the High Self-Esteem Profiles than the Below Average Profile. Similarly, having a better educated parent was linked to decreased odds of being in the Average and the Below Average Profiles compared to the High Self-Esteem Profile for boys. These links between parent education and profile membership did not emerge for girls. The pattern can also be seen when examining the strength of the effects. Although both boys and girls had increased odds of being in the High Achiever Profile than the Below Average Profile when they had a more educated parent, the effect was stronger for boys.

Three variables interacted with family support: (a) parent education, (b) mother-child relationship quality, and (c) father-child relationship quality. Broadly, the effects indicated that the importance of family support for youths’ profile membership depended on other types of family capital. We followed up these interactions by examining these three variables separately for youth with above the median and below the median levels of family support.

Focusing first on the interaction between family support and parent education, analyses revealed that for highly supportive families, having a better educated parent was linked to decreased odds of being in the Average and the High Self-Esteem Profiles than in the High Achiever Profile. Similarly, in highly supportive families, having a better educated parent predicted increased odds of being in the Average Profile as compared to the Below Average Profile. Finally, for highly supportive families, having a better educated parent was linked to decreased odds of being in the Average and the Below Average Profiles and increased odds of being in the High Achiever Profile compared to the High Self-Esteem Profile. These links did not emerge in low support families.
A similar pattern was found with the interaction between family support and mother-child relationship quality. In highly supportive families, warm mother-child relationships were linked to decreased odds of being in the Average than the High Self-Esteem Group. A similar pattern was found when examining the strength of the associations. Warm mother-child relationships were linked to increased odds of being in the High Self-Esteem than the High Achiever Profile for families who were both above and below the median in family support; however, the link was stronger in highly supportive families.

When examining father-child relationship quality in highly supportive families, warm father-child relationships were associated with decreased odds of being in the Average, the Below Average, and the High Achiever Profiles compared to the High Self-Esteem Profile. Similarly, increased odds of being in the Average and the High Self-Esteem Profiles than the Below Average Profile were found in highly supportive families where fathers and youth shared a warm relationship. These links between father-child relationship quality and profile membership did not emerge in low support families.

We found further evidence that having one type of social capital enhanced the positive effects of other types of social capital when examining the interaction between mother-child and father-child relationship quality. For youth who reported above the median relationship quality with mothers, warm father-child relationships were linked to increased odds of being in the High Self-Esteem Profile than the High Achiever Profile and decreased odds of being in the Average Profile than the High Self-Esteem Profile. Furthermore, we found examples where the links of father-child relationship quality were stronger in youth who were above the median of mother-child relationship quality. For example, youth had increased odds of being in the High Achiever than the Below Average Profile within the context of warm father-child relationships; this effect
was stronger, however, in families with warm mother-child relationships compared to not so warm mother-child relationships.

Discussion

This study had two aims. First, we examined profiles of individual positive qualities to in a nationally representative sample of youth. We identified four profiles who exhibited different patterns of positive traits: Average, High Self-Esteem, Below Average, and High Achiever Profiles. Second, we explored the links between family capital and youths’ positive development. We found that human, social, and economic capital within the family were differentially linked to these positive development profiles (Coleman 1988, 1990). Our concluding remarks focus on three issues: distinctions between the High Self-Esteem and the High Achiever Profiles, cumulative family capital effects, and the moderating role of gender.

High Self-Esteem Profile vs. High Achiever Profile

Our results indicated the presence of four patterns of positive development in youth. The Average Profile (36%), containing an equal proportion of boys and girls, represented youth reflecting average levels of the five positive indicators. Youth in the High Self-Esteem Profile were noteworthy because of their high self-esteem and school bondedness ratings and were above average on the other PYD indicators. This profile contained about one-fourth of the sample and included more boys than girls. More girls than boys were found in the Below Average Profile which represented 30 percent of the sample; these youth scored below average on all five indicators. Finally, youth in the High Achiever Profile were above average on all PYD indicators but were noteworthy for their school bondedness and school grades; this profile included more girls than boys and contained about 10 percent of the sample.
The High Self-Esteem and the High Achiever Profiles contained youth who were above the average on all PYD indicators but differing levels of positive qualities defined their profiles. First, these profiles demonstrated that there are different profiles of youth positive development. Further, the family capital indices illuminated different family capital correlates of these profiles. First, youth were more likely to be in the High Achiever Profile than the High Self-Esteem Profile if they had a better educated parent and higher family income. More educated parents may communicate higher educational expectations for their children, encouraging a higher level of academic motivation in their children (Davis-Kean, 2005). Children may model their parents’ academic successes, and more educated parents may be able to more effectively give advice and instruction that facilitated their children’s academic achievement (Park & Buriel, 1998).

Moreover, higher levels of financial resources may afford parents the ability to provide a higher quality education for their children. These effects, however, may not solely occur through socialization. We acknowledge that parents not only act as opportunity providers and direct instructors of their children (Park & Buriel), but they also provide children with their genetic potential for intelligence (Teachman, 1997).

In contrast, we found that higher levels of family support and mother-child relationship quality were linked to youths’ membership in the High Self-Esteem Profile than the High Achiever Profile. Two factors have been studied as routes into high self-esteem for youth: (a) competency domains of perceived importance, and (b) supportive family relationships and contexts (Harter, 2006). Although Harter has found evidence that both competency and support are important determinants of self-esteem, our findings provide support for the latter process. That is, warmer parent-child relationships and family support were related to inclusion in the High Self-Esteem Profile than the High Achiever Profile. Harter suggested that youth initially
form their sense of self from significant individuals in their lives, (usually parents), and gradually internalize these beliefs into their identity. Our evidence suggests that warm parent-child relationships and high levels of family support facilitated the development of high self-esteem, which then may then promote positive development into emerging adulthood and beyond.

**Evidence for Cumulative Promotive Effects**

A second key pattern that emerged pertained to cumulative promotive effects of different types of family capital for PYD. Consistent with capital theory (Coleman, 1988, 1990) and previous research (Teachman, Paasch, & Carver, 1996), we found that the effects of one type of capital in promoting membership into PYD profiles were magnified in the presence of other types of family capital. Specifically, we found that higher levels of family support magnified the impact of parent education, mother-child relationship quality, and father-child relationship quality on membership to the High Self-Esteem, High Achiever, and the Average Profiles than the Below Average Profile. Furthermore, warmer mother-child relationships facilitated the impact of father-child relationship quality for membership in the High Self-Esteem and the High Achiever Profiles than the Average and the Below Average Profiles.

The risk and resilience framework highlights the idea of cumulative risk (Forehand, Biggar, & Kotchick, 1998), which refers to the collective effects of risk factors that work together to shape youth development. Whereas some risk factors may linearly increase the likelihood of a particular developmental outcome, other risk factors may have a multiplicative effect (Forehand et al.). We draw from this idea but have applied it to benefits of family capital in promoting positive development in youth. For example, our data suggest that in highly supportive families, youth who had better educated parents were more likely to be in the High Achiever and less likely to be in the Average or Below Average Profiles as compared to the High
Self-Esteem Profile, but this link between parent education and profile membership did not emerge in low support families. Evidence of cumulative promotive effects was also demonstrated in a study by Crosnoe (2004) who found that youth who had more social capital resources at home benefited to a greater degree from the social capital resources present in their school. As our study and Crosnoe’s study suggest, the magnitude of the effect of any family capital resource in isolation may be relatively small; however, the cumulative effect of multiple types of family capital appears to be more substantial in promoting positive development. In this study, we only examined the interaction of two types of family capital. Further research must explore whether cumulative promotive effects extend to other types of family capital.

**Gender Differences**

Several gender differences emerged with respect to profile membership. Boys were more likely to be in the High Self-Esteem Profile whereas girls were more likely to be in the High Achiever and the Below Average Profiles. These findings were consistent with previous work indicating the boys typically have higher self-esteem than girls (Kling et al., 1999) and girls have higher academic achievement than boys (Dwyer, & Johnson, 1997). Moreover, the presence of average levels of self-esteem in the girl-dominated High Achiever Profile also coincides with evidence that girls are more sensitive to evaluation, and more prone to comparison and negative self-evaluations compared to boys (Eccles, Wigfield, & Schiefele, 1998).

Furthermore, we explored gender differences in the associations between family capital and profile membership. Based on recent findings highlighting the risks associated with being a boy (Sommers, 2000), we proposed that boys would benefit at greater levels from family capital resources than would girls. Confirming our hypothesis, we found that having better educated
parents increased boys’ odds of being in the High Self-Esteem and the High Achiever Profiles than the other two profiles; these findings did not emerge for girls.

Why might parent education have a beneficial effect for son’s positive development but not for daughters? These findings may in part reflect recent work indicating that girls outperform boys in the school context (Dwyer, & Johnson, 1997; Sommers, 2000). Whether it is because girls are socialized into being more academically-oriented, or because particular aspects of the school context do not match with boys’ temperament (Sommers, 2000), our results indicated that the benefit of having an educated parent for positive development was stronger for boys than girls. Our hypothesis that boys would more strongly benefit from family capital than girls represents a child effect. Alternatively, these findings may reflect a parent effect. Higher levels of education, one indicator of socioeconomic status, have been linked to parents’ value of self-direction in their children (as opposed to obedience); this value coincides well with youths’ increased desire for autonomy in adolescence indicating a good person-environment fit (Edwards, Cable, Williamson, Lambert, & Shipp, 2006), which may then promote youths’ membership to the High Self-Esteem Profile. This process may be stronger for boys than girls, however, because of parents being influenced by social norms emphasizing the importance of male independence over female independence. This interaction between gender and parent education should be interpreted cautiously, however, because only one out of five interactions with youth gender was statistically significant.

Contributions, Limitations, and Future Directions

This study makes several important contributions to the study of PYD. First, most research in this area has taken a variable-oriented approach to examine how one aspect of development was linked to another aspect. As we have demonstrated here, however, there is
much to be gained by a person-oriented approach, which instead groups individuals based on a shared pattern of qualities. The presence of both the High Self-Esteem and the High Achiever Profiles demonstrates that there are different ways that youth can positively develop; this information would have been lost in a variable-oriented approach. Second, because we examined data from a nationally representative sample of youth which included a large and diverse sample, we were able to make conclusions about typical school-attending adolescents in the United States, a benefit not afforded smaller scale, person-oriented studies.

As with all studies, this study is not without its limitations. One of the drawbacks of large data sets is their limitation with respect to measurement techniques and reporters. There is more complexity to the family system than has been captured here. For example, parent-child relationships are multi-dimensional, and other relational dimensions (e.g., conflict, power) may have different implications for PYD. Furthermore, with the exception of family income and parent education which was reported by a parent figure, we relied on youth reports of family capital and positive development, raising problems of a single-reporter bias. Finally, family members often have different perspectives of the same family dynamics, and we have not captured this complexity in the present analyses.

In addition, our correlational design means we cannot draw conclusions about the direction of effects. Although we suggest a particular direction of effects in this paper (that is, family capital promotes/hinders youth development), this is not to say that other direction of effect does not also occur. Youth choose particular environments as a function of their personal qualities and evoke particular reactions from their environments (Scarr & McCartney, 1983). It may be that youth with particular profiles are be seen as having potential which prompts parents to provide higher levels of family capital. Longitudinal analyses that chart both family capital
predictors and positive development in youth over time may help to disentangle the direction of these effects.

Our findings raise three directions for future research. First, future research should examine the implications of positive development in adolescence for well-being in emerging adulthood and beyond. Negative behaviors in adolescence can have long-term implications for individual development (Steinberg et al., 2006), but we know little about how positive qualities in adolescence differentially predict well-being later in the life course. In future work, we can explore whether differences in life satisfaction, depressive symptoms, or success in love and work emerge between the High Self-Esteem Profile and the High Achiever Profile.

A second direction for future research involves examining whether youth transition in and out of particular profiles at different periods of adolescence. Moreover, if evidence indicates transitions, research could explore the conditions under which these transitions occur (e.g., Do changes in the amount of family capital resources facilitate changes into different profiles?) This work could inform policy makers as to the best intervention points to promote positive development in youth.

Finally, the field needs to move beyond focusing solely on either negative or positive development and instead recognize that youth exhibit combinations of both positive and negative adjustment. Eccles and colleagues’ (2003) work supports this idea: They found that involvement in sports, a constructive activity that has been linked to positive educational outcomes, was also linked to higher rates of youths’ alcohol use. This evidence prompts an examination of youth profiles that encompass both negative and positive development.
References


In N. Eisenberg & W. Damon (Eds.), *Handbook of child psychology: Vol. 3: Social, emotional, and personality development* (pp. 463-552). New York: Wiley.


Table 2.1

*Positive Youth Development and Family Capital: Correlations, Means, Standard Deviations, and Ranges (N = 7,786)*

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<sup>a</sup>Youth gender: 0 = male, 1 = female. <sup>b</sup>Youth ethnicity: 0 = White/Non-Hispanic, 1 = other. <sup>c</sup>Father presence: 0 = father/father figure present, 1 = no father/father figure. <sup>d</sup>Because the items of the health composite variable were measured on difference scales, the average of the standardized items is reported here. <sup>e</sup>Family income reported in thousands of dollars.

†< .10. *p < .05. **p < .01. ***p < .001.
Table 2.2

Comparison of Means Across the Latent Profile Analysis Solution (N = 7,786)

<table>
<thead>
<tr>
<th>PYD Indicators</th>
<th>Profile 1 Average (N = 2,810; 36.09%)</th>
<th>Profile 2 High Self-Esteem (N = 1,903; 24.41%)</th>
<th>Profile 3 Below Average (N = 2,348; 30.17%)</th>
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<td>Mean</td>
<td>SD</td>
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Family Capital

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<th>Mean</th>
<th>SD</th>
<th>Mean</th>
<th>SD</th>
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</table>

*Note.* M = Mothers; F = Fathers. Income reported in thousands of dollars. Follow-up Tukey tests indicated that the means were significantly different across each profile.
Table 2.3

Multinomial Logistic Regressions Predicting PYD Latent Profiles with Family Capital (N = 7,786)

<table>
<thead>
<tr>
<th>Reference: High Achievers</th>
<th>Profile 1: Average</th>
<th>Profile 2: High Self-Esteem</th>
<th>Pro</th>
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<tbody>
<tr>
<td>Intercept</td>
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<td>2.89***</td>
</tr>
<tr>
<td>Youth gender⁹</td>
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<td>-.87</td>
<td>.42***</td>
</tr>
<tr>
<td>Youth ethnicity⁸</td>
<td>.52</td>
<td>.43</td>
<td>1.53***</td>
</tr>
<tr>
<td>Family structure⁷</td>
<td>.40</td>
<td>.31</td>
<td>1.36**</td>
</tr>
<tr>
<td>Parent educ.</td>
<td>-.29</td>
<td>-.20</td>
<td>.82***</td>
</tr>
<tr>
<td>Family support</td>
<td>-.03</td>
<td>.29</td>
<td>1.33***</td>
</tr>
<tr>
<td>M-child rel. qual.</td>
<td>.03</td>
<td>.28</td>
<td>1.33***</td>
</tr>
<tr>
<td>F-child rel. qual.</td>
<td>-.08</td>
<td>.06</td>
<td>1.07</td>
</tr>
<tr>
<td>Income</td>
<td>-.21</td>
<td>-.18</td>
<td>.84**</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reference: Below Average</th>
<th>Profile 1: Average</th>
<th>Profile 2: High Self-Esteem</th>
<th>Pro</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>.52</td>
<td>.19</td>
<td>1.20***</td>
</tr>
<tr>
<td>Youth gender⁹</td>
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<td>-.80</td>
<td>.45***</td>
</tr>
<tr>
<td>Youth ethnicity⁸</td>
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<td>.09</td>
<td>1.09</td>
</tr>
<tr>
<td>Family structure⁷</td>
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<td>-.31</td>
<td>.73***</td>
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<tr>
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<td>1.19***</td>
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Table 2.3

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<td>Family support</td>
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<td>.67 .05 1.96*** .39</td>
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<td>M-child rel. qual.</td>
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<td>.30 .05 1.36*** .02</td>
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<td>F-child rel. qual.</td>
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<td>.39 .05 1.47*** .33</td>
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<tr>
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<td>.03 .04 1.03 .21</td>
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Reference: High Self-Esteem

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<td>.31 .08 1.36*** -.31</td>
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Note. M = Mothers; F = Fathers.

*Youth gender: 0 = male, 1 = female. *Youth ethnicity: 0 = White/Non-Hispanic, 1 = other. *Father presence: 0 = father/father figure present, 1 = no father/father figure present.

*p < .05. **p < .01. ***p < .001.
Table 2.4

*Multinomial Logistic Regressions: Interaction Results (N = 7,786)*

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<td></td>
<td>B</td>
<td>SE</td>
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<td>Girls</td>
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<td>.08</td>
<td>.76***</td>
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<tr>
<td>Family support × Parent educ.</td>
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<td>.87</td>
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<tr>
<td>Low M-child rel. qual.</td>
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Table 2.4

Continued

Reference: Below Average

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<tr>
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<td>1.16***</td>
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<td>Low Support</td>
<td>.04</td>
<td>1.04</td>
<td>.04</td>
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<td>Family support × M-child rel. qual.</td>
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<td>.23</td>
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<tr>
<td>Low M-child rel. qual.</td>
<td>.17</td>
<td>1.19***</td>
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Table 2.4

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<table>
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<tr>
<th>Reference: High Self-Esteem</th>
<th>Profile 1: Average</th>
<th>Profile 2: High Self-Esteem</th>
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<tr>
<td>Youth gender × Parent educ.</td>
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<tr>
<td>Boys</td>
<td>-.12</td>
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<td>Girls</td>
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<td>Family support × Parent educ.</td>
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<tr>
<td>High Support</td>
<td>-.10</td>
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<td>Low Support</td>
<td>-.02</td>
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<tr>
<td>Family support × M-child rel. qual.</td>
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<tr>
<td>High Support</td>
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<td>.07</td>
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<tr>
<td>Low Support</td>
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<td>Family support × F-child rel. qual.</td>
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<tr>
<td>High Support</td>
<td>-.37</td>
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<tr>
<td>Low Support</td>
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<td>M-child rel. qual. × F-child rel. qual.</td>
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*p < .05. **p < .01. ***p < .001.
Figure Captions

*Figure 2.1*  Latent Profile Analysis Results of Five Positive Youth Development Indicators
Figure 2.1

![Graph showing profiles and their respective scores for various categories such as School grades, School bondedness, Self-esteem, Constructive activity participation, and Physical health. The profiles are labeled as Profile 1, Profile 2, Profile 3, and Profile 4.]
APPENDIX

Missing Data Analysis

The original sample included youth who had complete data on the five PYD indicators, as there is no established method for performing LPA on multiply-imputed data (Uebersax, 2008). We did, however, examine whether the data on the family capital indicators were systematically missing as a function of the latent profiles to determine whether multiple imputation was necessary. We created a new variable for each covariate that was coded either 0 (missing value) or 1 (value present). We then ran chi-square tests (Missing Data Variable × Latent Profile Membership) to determine whether the covariates were systematically missing as a function of the latent profiles. Because there was little to no missingness (2 cases or less) on youth gender and ethnicity and father presence, we did not run chi-square tests on those variables.

Non-significant Pearson chi-squared values were found for mother-child relationship quality, $\chi^2(3, N = 7786) = 4.92$, ns; Missing: 4.78% and family support, $\chi^2(3, N = 7786) = 1.88$, ns; Missing: .49%, indicating that the covariates were not differentially missing as a function of profile. A significant Pearson chi-square value was found for parent education, $\chi^2(3, N = 7786) = 18.88$, $p < .001$; Missing: 13.69%. Even though this test indicated that the values were differentially missing as a function of profile, the percents missing were consistent across profiles (Profile 1: 14.59%; Profile 2: 10.72%; Profile 3: 14.78%; Profile 4: 14.48%). We therefore assumed this missingness was of little consequence and concluded that these data were missing at random. We drew a similar conclusion when examining family income, our economic capital indicator, $\chi^2(3, N = 7786) = 14.81$, $p < .01$; Missing: 27.37%. The percent missingness across profiles was relatively consistent (Profile 1: 28.68%; Profile 2: 24.07%; Profile 3:
28.62%.; Profile 4: 26.90%) leading us to conclude that these differences were not systematic, making multiple imputation an appropriate option for these variables. We performed multiple imputation, computing five data sets used in the multinomial logistic regression analyses. Multiple imputation is advantageous over list-wise deletion because it increases statistical power and maintains the representativeness of the sample (Graham & Collins, 2007).

The Pearson chi-square value for the father-child relationship quality, however, indicated that the data were missing not at random, $\chi^2 (3, N = 7786) = 67.23, p < .001$; Profile 1: 27.05%; Profile 2: 24.07%; Profile 3: 31.64%; Profile 4: 17.52%. A 14% difference in missingness occurred between the Below Average Profile (Profile 3) and the High Achiever Profile (Profile 4) with the Below Average Profile missing significantly more father-child relationship variables than the High Achiever Profile. At the beginning of the Add Health interview, youth were asked to identify their father; if their biological father was not living in their household, they could answer questions about a father figure who lived in their household. If no such figure existed, youth did not answer the father-related questions. In other words, youth who were missing on the father relationship variable were systematically missing because they had no father figure in the household. We concluded that this variable was missing not at random, deeming multiple imputation an inappropriate strategy. Therefore, to account for this missingness, we entered the father-presence dummy coded variable as a control in the analyses. We entered the mean of father-child relationship quality (or in this case, zero, because all predictors were standardized) for the missing values to keep those families missing on the variable in the data set.

\(^2\)Determining the Best Fitting Latent Profile Analysis Solution

Using Mplus (Version 4), we examined the latent structure of five continuous indicators of PYD using Latent Profile Analysis (LPA), a type of mixture modeling (Muthén & Muthén,
To determine the optimal number of latent profiles, we used three strategies. First, we examined three indices of relative fit: Akaike Information Criteria (AIC), Bayesian Information Criteria (BIC), and Sample-size Adjusted Bayesian Information Criteria (A-BIC); smaller values indicated better fitting solutions. Starting with a one profile solution, we tested multiple LPA models in which the number of latent profiles increased incrementally by one, and we compared the fit criteria for each solution. As the number of latent profiles increased, there was typically a drop in the information criteria. Once Mplus arrived at the best-fitting solution, the inclusion of additional latent profiles results in an increase in the information criteria, thus indicating poorer statistical fit. Second, we examined the number of youth assigned to each profile and required that each profile contain at least 5% of the sample. Finally, we examined the solution for interpretability. If the statistically best-fitting model was not substantively meaningful, a reexamination of the results was warranted.

3 Stability of the Latent Profile Solution

We examined the stability of the four-group solution in two ways. First, we tested the best-fitting solution using multiple starting values (approximately 1000). LPA is heavily dependent on the starting value; therefore, a solution that replicates the best-fitting log-likelihood with different starting values increases confidence in the solution. Analyses determined that the four profile solution replicated, supporting the stability of the solution. Second, as stated previously, mixture modeling assigns probabilities of being in a particular profile to each individual; if the optimal solution has four profiles, the sum of the probabilities of an individual being in each of the four profiles will be one. Ideally, the best-fitting LPA solution gives an individual a high probability for membership in one profile and a low probability in the other profiles (e.g., .85, .05, .05, .05). We, therefore, assessed the average latent profile probabilities
for latent profile membership, and they were acceptable (.86, .79, .68, and .87, respectively).

4 Analytic Plan

Further analyses examined how Wave I family capital predicted membership in the latent profiles one year later. Two strategies can be used to examine covariates. First, covariates can be examined in the mixture modeling framework, which takes advantage of the fact that individuals are assigned probabilities of group membership instead of actually being assigned to groups. The sensitive nature of these probabilities is one of the main benefits of using LPA over other person-oriented methodologies, including cluster analysis and apriori classification (Whiteman & Loken, 2006). Mixture modeling programs, including MPLUS and Latent Gold, are designed such that adding a covariate changes the solution to maximize the differences in the profiles based on the covariate (Nylund-Gibson & Masyn, 2008). This strategy poses a problem, because we examined multiple covariates in these analyses.

A second approach uses membership probabilities to assign each individual to a single profile, thus allowing covariate analyses to be computed within a multinomial logistic regression framework. We chose this strategy because previous analyses indicated that the average latent profile probabilities for profile membership were acceptable (see Amato et al., in press, as an example of this approach). Because the Add Health data set contains over-sampled sub-populations, sampling weights were used in the follow-up analyses to maintain the representativeness of the sample. Although sampling weights were not entered as part of the LPA, we included the appropriate weights when examining the covariates of the latent profiles in the multinomial logistic regression analyses.
References


CHAPTER 3

Sources of Parental Knowledge in African American Families with Adolescent Youth:

The Role of Family Relationship Quality

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Abstract

This study explored how youth gender, age, and family members’ relationship qualities predicted five sources of mothers’ and fathers’ knowledge in a relatively understudied population: two-parent African American families ($N=187$ families). Whereas mothers relied most often on solicitation, fathers relied most often on their spouse for information. Multilevel modeling results indicated that older youth disclosed less to parents than did younger youth. A quadratic age pattern indicated that fathers asked youth fewer questions in early adolescence, coinciding with an increase in relying on spouse and siblings. Consistently, warmer parent-child relationships predicted parents’ reliance on multiple sources of knowledge, indicating that both parents and youth may be more committed to being/staying informed when they get along.

Interpreting results in light of a family systems perspective, warmer marital relationships predicted increased reliance on spouse, and warmer parent-sibling relationships predicted increased reliance on siblings. Results varied for mothers and fathers of sons and daughters. Discussion focused on the importance of examining the development of parents’ knowledge and the role other family members play in these processes.

Keywords: sources of knowledge, adolescence, family member relationship quality, child disclosure
Sources of Parental Knowledge in African American Families:

The Role of Family Relationship Quality

Controversies within developmental research have arisen around the nature of parental knowledge, a key factor linked to youth well-being (see Crouter & Head, 2002 for a review). Research initially explored parental monitoring, which “involves tracking the child’s whereabouts and activities, ensuring that the child is in adult-supervised settings, and enforcing the rules related to tracking” (Fisher, Leve, O’Leary, & Leve, 2003, p. 45). It was initially thought that parents’ monitoring behaviors were necessary to prevent youths’ delinquency (Crouter & Head).

Over time, however, researchers questioned this exclusive emphasis on parents’ behaviors and proposed that it is parental knowledge about their youths’ experiences, not only parents’ tracking and surveillance behaviors, that is key for delinquency prevention (Stattin & Kerr, 2000). Furthermore, many of the measures assessing parental monitoring actually assessed parental knowledge (Smetana, 2008). Research has since identified many sources through which parents become knowledgeable, including child disclosure (a child-level phenomenon; Stattin & Kerr), parents’ familiarity of youths’ schedules/routines (a parent-level phenomenon; Waizenhofer, Buchanan, & Jackson-Newsom, 2004), and parents relying on spouse and other children in the family for information (family-level phenomena; Crouter, Bumpus, Davis, & McHale, 2005). Understanding how parents become knowledgeable will further our understanding of this key construct in families with adolescent children. This paper advances the field by exploring individual and family-level correlates of five sources of knowledge: child disclosure, parental solicitation, and relying on spouse, siblings, and people outside the family (POF) for information.
We explored these sources of knowledge among two-parent African American families with two children. Most research on parental knowledge in general and sources of knowledge in particular has focused on European American (e.g., Crouter et al., 2005) or European families (e.g., Stattin & Kerr, 2000). We know very little about how African American mothers and fathers become knowledgeable. More broadly, most developmental research on African American families has focused on families in trouble and single-parent families, instead of on normative family processes in two-parent families (Hill, Murray, & Anderson, 2005). As García Coll, and colleagues (1995, p. 190) stated:

The knowledge base about parenting and basic family processes needs to incorporate the full range of normative experiences to which children are exposed within their families. These family experiences are not always characterized by being White, middle-class, nuclear, with the biological mother as the primary caregiver.

We address this lack of attention paid to two-parent African American families by examining factors that give rise to parental knowledge in this population. In the following paragraphs, we explore previous research and theory addressing how parents become knowledgeable. We then examine key correlates of parental knowledge, including youth characteristics and family relationship quality.

*Dyadic Sources of Knowledge*

Prior research examining sources of knowledge has primarily focused on the parent-child dyad. Child disclosure and parental solicitation, two sources examined in this study, are intimately linked: As parents ask questions, children respond, and so on. Alternatively, youths’ unsolicited disclosure may prompt parents to ask questions. Parents and children likely take cues from each other regarding how much to ask and how much to tell.
A handful of studies have examined dyadic sources of knowledge. Stattin and Kerr (2000) were forerunners when they examined three sources of knowledge in a sample of 14-year-old Swedish youth: child disclosure, parental solicitation, and parental control. They found that parental knowledge was more strongly linked to child disclosure than either solicitation or control, leading them to challenge the existing assumption that parental knowledge comes primarily from parents’ monitoring behaviors. Further research has investigated child disclosure in greater detail. For example, Smetana and colleagues (2006) found that youth who trusted their parents more and felt more obligated to disclose shared more with their parents. More recently, both parents’ trust of youth and youths’ trust of parents have been identified as unique factors relating to child disclosure (Smetana, 2008). Taken together, these findings indicate that the context of the parent-child relationship matters for child disclosure.

**Non-Dyadic Sources of Knowledge**

Parents’ methods of obtaining knowledge are not solely dependent on direct interactions with their children, however. Parents may acquire information from other sources within the family, including spouses or other children. Family systems theory highlights the importance of examining the direct and indirect effects family members have on each other and on the family unit as a whole (Cox & Paley, 1997). We applied this perspective by exploring how spouses and siblings act as sources of knowledge within the family. Additionally, because families themselves are embedded in broader contexts that contain many potential sources of knowledge, (e.g., teachers, neighbors, coaches), we also explored parents relying on POF for information.

Parents’ use of non-dyadic sources of knowledge may reflect two different within-family processes. First, parents may rely on non-dyadic sources because their children do not freely share about their daily experiences. Because being knowledgeable is seen by many as a basic
parenting responsibility (Crouter & Head, 2002), parents may rely on other informants out of the need to stay informed. In contrast, parents may rely on others for information because they are deeply involved in their youths’ daily activities. For example, parents who volunteer at their youths’ school may have more opportunities to learn information from their youths’ teachers than parents who do not volunteer.

Another key aspect of the family system is that many families, like the families in the current study, have both a mother and father who are directly involved in daily parenting. Despite cultural stereotypes of mother-headed African American families, African American fathers play an ever increasing role in the socialization of their children (Livingston & McAdoo, 2007). Extrapolating from the coparenting literature that examines parenting teamwork in childrearing (McHale et al., 2002), mothers and fathers likely collaborate in an effort to stay knowledgeable. This parenting teamwork may encourage mothers and fathers to specialize in relying on particular sources of knowledge. Indeed, previous research discussed below has found some evidence of mothers’ and fathers’ differential reliance on particular sources of knowledge (Crouter et al., 2005; Waizenhofer et al., 2004). This may partly be explained by Buhrmester and Prager (1995, p. 45) who stated, “Socialization for male roles may not predispose fathers to expect, or be comfortable with, intimate conversations with their adolescent children.” Because of these social roles, fathers may be more likely to rely on non-dyadic sources for information whereas mothers may be more inclined to rely on dyadic sources of knowledge to stay informed.

Two studies have explored non-dyadic sources of knowledge. In a sample of European American families with 16-year-old adolescents, Crouter and colleagues (2005) used a person-oriented analytic approach to examine mothers’ and fathers’ reliance on six sources of knowledge. One group of fathers primarily relied on their spouse for information whereas
another group of fathers relied on others (siblings, POF). A final group of fathers relied on relational, or dyadic, sources of knowledge (child disclosure, parental solicitation). Similar to fathers, a group of relationally-oriented mothers and a group of mothers who relied on others were found. A third group of mothers (that did not emerge for fathers) relied primarily on solicitation to stay informed. These clusters of sources of knowledge were differentially linked to parental knowledge, which was then, in turn, linked to changes in youths’ risky behavior across four years; these patterns of linkages differed for mothers and fathers.

Waizenhofer and colleagues (2004) grouped sources of knowledge of European American parents with adolescent youth (10 – 17 years old) into four classes: (a) active methods (parent asked child, spouse, someone not already mentioned, or parent was involved in the activity); (b) passive-child methods (unsolicited child disclosure); (c) passive-spouse methods (unsolicited spouse disclosure); and (d) passive-other methods (passively receiving information from someone other than spouse/child, activity routine for child). Mothers relied more on active methods whereas fathers relied more on passive-spouse methods, especially for daughters.

In sum, previous research and theory lends strong evidence to the importance of examining mothers’ and fathers’ sources of knowledge separately; our first research goal therefore described mother-father similarities and differences in five sources of knowledge.

Correlates of Sources of Knowledge

A second goal was to determine correlates of these sources of knowledge. We explored correlates in two domains: (a) youth characteristics, including gender and age, and (b) family members’ relationship quality. Previous research, conducted on primarily European American or European samples, has identified these two domains as having important implications for how parents become knowledgeable.
Youth characteristics. Several studies have found that parents’ reliance on sources of knowledge differed as a function of youth gender. For example, Stattin and Kerr (2000) noted that daughters more freely disclosed to parents than did sons. This finding, which was consistent with the disclosure literature more broadly, indicates that females engage in higher levels of disclosure compared to males (Rotenberg, 1995). These gender differences may be in part due to cultural prescriptions that maintain that self-disclosure is a gender-appropriate, normative way for girls (but not boys) to maintain intimacy in relationships (Buhrmester & Prager, 1995).

Gender differences were also found for non-dyadic sources of knowledge: Waizenhofer and colleagues (2004) reported that fathers were more likely to rely on passive-spouse methods for daughters than sons. We furthered this research by exploring whether these gender differences applied to other sources of knowledge as well.

A second key correlate of sources of knowledge is youth age. Currently, little is known about how the ways in which parents become knowledgeable varies as youth progress from childhood through adolescence. No research we know of has explored whether parents relying on solicitation, spouses, siblings, and POF for information varied for older and younger youth. Two studies, however, have explored child disclosure as a function of youth age. Smetana and colleagues (under review) noted that youths’ nondisclosure rose in middle adolescence, a period which has been linked to increased distance in parent-child relationships (Laursen, Coy, & Collins, 1998; Paikoff & Brooks-Gunn, 1991). Similarly, Buhrmester and Prager (1995) found a modest decrease in youths’ disclosure to parents in early and middle adolescence compared to childhood. We expanded this work beyond child disclosure by exploring whether and how youth age differentially predicted five sources of knowledge.

Family members’ relationship quality. We also explored whether relationship quality
between different dyads within the family was associated with sources of knowledge. Not only did we examine how parent-child relationship quality related to how parents became knowledgeable, but we also explored how other family relationships, including marital and sibling relationships were related to the sources of knowledge. Along with other racial and ethnic groups, African Americans have historically valued, and have been are heavily embedded in, kin networks; we therefore wanted to explore relationship quality in African American families as a correlate of sources of knowledge (García Coll et al., 1995).

Previous research has highlighted parent-child relationship quality as a key factor predicting how parents become knowledgeable. As Crouter and Head (2002, p. 472) stated, “The quality of the parent-child relationship is probably the most important and proximal correlate of parental monitoring and parental knowledge…”, a statement that has been substantiated by several studies. Patterson, Rein, and Dishion (1992) noted that closer parent-child relationships were associated with higher levels of parental monitoring. In one of the few studies exploring sources of knowledge in African American families, Brown and colleagues (2007) highlighted the key role trust plays in African American families around child disclosure of peer experiences. They found that building up and maintaining trust in parent-child relationships was a critical goal for both parents and youth, which then predicted how assertive parents were in asking children questions about their peer involvement.

There are two reasons why parent-child relationship quality may be linked to sources of knowledge. First, a positive parent-child relationship creates an environment in which children can freely disclose about their experiences. The relationship context may also impact whether youth interpret parental solicitation as interest or intrusion (Laird, Pettit, Dodge, & Bates, 2003). Second, having warm relationships with children may motivate parents to be more proactive in
learning about their children’s daily lives (Crouter & Head, 2002). We therefore explored the associations between parent-child relationship quality and five sources of knowledge.

We also explored whether youth gender and age moderated the links between family members’ relationship quality and sources of knowledge. Increased distance between parents and youth often occurs around the transition to puberty, both with respect to parent-child relationship quality (Steinberg, 1988; Steinberg & Hill, 1978) and the amount of time parents and youth spend together (Dubas & Gerris, 2002). Within this increased distance, however, gender differences have been found with mother-daughter relationships being the closest and father-daughter relationships being most distant (Paikoff & Brooks-Gunn, 1991; Russell & Saebel, 1997). Because of these differences, we also explored whether youth gender moderated the association between parent-child relationship quality and sources of mothers’ and fathers’ knowledge. We hypothesized that fathers may be more likely to rely on non-dyadic sources and less likely to rely on dyadic sources of knowledge for daughters in early adolescence compared to childhood and later adolescence, reflecting the distance that occurs when girls transition through puberty (Steinberg).

We were not interested, however, in only examining whether the parent-child relationship was associated with sources of knowledge. Incorporating a family systems perspective, we also explored how relationship quality among other dyads within the family related to how parents became knowledgeable; in doing so, we extended the literature from conceptualizing parental knowledge as driven by parent-child interactions to conceptualizing parental knowledge as a result of a family-level process.

To achieve this aim, we explored the impact of four additional family relationships: (a) parents’ marital relationship, (b) spouses’ relationship with target youth, (c) siblings’ relationship
quality, and (d) target parents’ relationship with the sibling of the target youth. Because we did not think that each family relationship was relevant for each source of knowledge, we specified our hypotheses linking family relationships to particular sources of knowledge below. To reduce confusion, we refer to the child about whom the parent is obtaining knowledge as the target child; we refer to the other child in the family as the sibling of the target child. Similarly, we refer to the parent who is obtaining knowledge as the target parent and the other parent as the spouse of the target parent.

We first examined whether the quality of the marital relationship was associated with target parents relying on their spouse for information. Coparenting has been found to be closely linked to marital quality in families with adolescent youth (Baril, Crouter, & McHale, 2007). We predicted that parents may be more likely to rely on their spouse in the context of warm marital relationships, thereby displaying evidence of coparenting teamwork around staying knowledgeable. Conversely, parents may withhold information about their children in the context of poor quality marital relationships.

Second, we explored whether the relation between target parents’ spouse and the target youth was related to how much target parents relied on their spouse for information. We hypothesized that if a spouse had warm relationship with the target child (thereby facilitating information exchange), target parents may be more likely to rely on their spouse for information. Considering the possibility that parents may specialize in particular sources of knowledge (Crouter et al., 2005), it may be especially efficient for parents to rely on their spouse for information if their spouse has a particularly warm relationship with the target child.

We used similar logic when exploring the links between the quality of the sibling relationship and parents relying on siblings. As Howe and colleagues (1995, p. 95) stated, “The
quality of the sibling relationship may be important in fostering self-disclosure between brothers and sisters.” We therefore hypothesized that parents would be more likely to rely on siblings for information if the siblings shared a warm relationship (and, likely, information about their daily experiences).

Finally, we explored whether target parents’ relationship with a sibling of a target child related to parents relying on siblings. We hypothesized that parents who had a warm relationship with a target child’s sibling would be more likely to rely on that sibling for information.

Summary of Research Questions

Among two-parent African American families with two youth, we asked four questions:

1. Are there mother-father differences in parents’ use of five sources of knowledge?
2. How are sources of knowledge related to youth age, youth gender, and parent-child relationship quality?
3. Are the links between parent-child relationship quality and sources of knowledge moderated by youth gender and age?
4. How does relationship quality among different dyads within the family relate to sources of knowledge?

Method

Participants

Participants included African American families involved in a longitudinal study of gender development. Criteria for inclusion included families that (a) self-identified as Black or African American, (b) had a mother figure and a father figure present in the home, and (c) had a target child in the 4th through 7th grade (d) with at least one older sibling living at home. We used data on two siblings in each family to increase the age range of the sample and increase the
statistical power of the analyses.

The sample was recruited in two ways (see McHale et al., 2006, for detailed description). First, recruiters held information sessions at community organizations (e.g., churches, schools) to identify families that met the admission criteria. Second, we purchased marketing lists of African American families in the targeted geographical areas that had at least one child in our desired age range. We sent letters explaining our study and follow-up phone calls were made to determine eligibility. Families who were interested in participating either called a 1-800 number or returned a postcard expressing their interest. About half of our sample was recruited using each method.

The original sample at Phase 1 included 202 families (13 fathers in these 202 families did not participate at Phase 1). To be included in the current analyses, the mother-figure and father figure had to be either married or cohabiting, a criterion that reduced our sample to 187 mothers and 179 fathers. Most parents self-identified as African American, although two fathers and five mothers identified as European American, two mothers as Hispanic, and one mother as Native American. Mothers and fathers on average reported some post high school training or some college (Mothers: $M = 14.65; SD = 1.82$; $Range = 9 - 19$; Fathers: $M = 14.25; SD = 2.37$; $Range = 5 – 19$; 12 denotes a high school education). Mothers were on average 40.71 years old ($SD = 5.59$; $Range = 27 – 60$) whereas fathers were on average 43.44 years old ($SD = 7.16$; $Range = 26 – 66$). Averaging across younger and older siblings, adolescents were 12.79 ($SD = 2.06$; $Range = 8 - 19$) years old (Older siblings: $M = 14.08; SD = 1.96$; $Range = 10 - 19$; Younger siblings: $M = 11.44; SD = 1.07$; $Range = 8 – 13$). Median family income was $83,000 ($SD = $56,736; $Range = $3,000 - $525,000), and average family size was 4.81 ($SD = 1.16; Range = 4 - 10$).
Procedure

Families were interviewed annually in their homes by interviewers, most of whom were African American. The lead interviewer provided an introduction to the family, during which the family was paid a $200 honorarium and informed consent/assent was obtained. The interviewers divided into teams, with the lead interviewer interviewing the parents and the second interviewer interviewing the adolescents one at a time.

Data from two phases of data collection were used. At Phase 1, controls, youth gender and age, sources of knowledge for older children, and family members’ relationship quality for older children were obtained. One-year later, sources of knowledge for younger children and family members’ relationship quality for younger children were obtained (Phase 2).

There was some attrition from Phase 1 to Phase 2. Six mothers, 31 fathers, 13 older children, and 5 younger children who participated in Phase 1 did not participate in Phase 2. T-tests indicated that these families did not differ significantly from families who participated in both Phase 1 and 2 on family income ($t(179) = -1.05, ns$), parents’ education, (Mothers: $t(185) = -1.29, ns$; Fathers: $t(177) = 1.08, ns$), or youth age ($t(186) = .62, ns$). We therefore included the families that did not participate in Phase 2 in the current analyses, which resulted in some families contributing two children and other families contributing one child to the analyses. Although this study uses data from two waves of data collection, the analyses are cross-sectional. Multilevel modeling is designed to take advantage of all possible data and accounts for this type of missing data.

Measures

Sources of knowledge. Child disclosure (6 items; “How often does your child spontaneously tell you about how his/her school day went?”) and parental solicitation (5 items;
“How often do you ask your child about how things are going with friends?”) were obtained using measures created by Stattin and Kerr (2000). Parents rated items on a Likert scale ranging from 1 (almost never) to 5 (almost always). Relying on spouse, siblings, and POF were obtained through three questions (e.g., “How do you usually learn about how your child has been spending his/her free time?”) developed for this project that parents rated on a Likert scale ranging from 1 (almost never) to 5 (almost always). Possible responses included: (a) “My spouse usually keeps me informed about this”, (b) “My child’s sister(s)/brother(s) usually keep(s) me informed about this”, and (c) “People outside the family (e.g., teachers, neighbors, child’s friends) usually keep me informed about this” (Crouter et al., 1999). Cronbach’s α’s were satisfactory (Mothers: .71 - .89; Fathers: .71 - .88). Descriptive statistics of the sources of knowledge are presented in Table 3.1.

Youth characteristics. Youth gender was obtained during the home interview and was coded: (0) female (50.53%), and (1) male. Youth age was calculated by subtracting the interview date from the birth date parents reported in the home interview. To adequately test our hypotheses, we included linear and quadratic age terms in the analyses (See Figures 1 and 2).

Family members’ relationship quality. Parent-child relationship quality was measured by asking parents to rate a shortened form (8 items) of the Child’s Report of Parental Behavior Inventory (Schaefer, 1965; Schwarz, Barton-Henry, & Pruzinsky, 1985). Mothers and fathers rated items (e.g., “I am a person who makes my child feel better after talking over his/her worries with me”) separately for older and younger children on a Likert scale from 1 (really unlike) to 4 (really like). Cronbach’s α’s were all above .83. The CRPBI was used to obtain both mother-target child/father-target child relationship quality and mother-sibling/father-sibling relationship quality (Mothers: $M = 4.23; SD = .53$; $Range = 2 – 5$; Fathers: $M = 3.98; SD = .62; Range = 1.75$
Sibling positivity (Stocker & McHale, 1992) was obtained by asking youth to rate the quality of their relationship by answering seven items (e.g., “How much do you teach your sister/brother things or help her/him figure something out?”; α’s > .70; M = 20.85; SD = 5.63; Range = 7 - 35) that were rated on a Likert scale ranging from 1 (hardly or hardly ever) to 5 (always). Marital satisfaction (Huston, McHale, & Crouter, 1986) was rated separately by mothers (M = 54.29; SD = 11.30; Range = 23 - 72) and fathers (M = 57.65; SD = 10.78; Range = 21 - 72) in eight domains on a scale ranging from 1 (extremely dissatisfied) to 9 (extremely satisfied). A sample item included “Division of Child Care: How satisfied are you with how the two of you divide the tasks of taking care of the children?” Because we obtained sources of knowledge for older and younger youth in two different phases of data collection, we averaged mothers’ (r = .55, p < .001) and fathers’ (r = .67, p < .001) reports of marital satisfaction from Phases 1 and 2. Cronbach’s α’s were all above .88.

Controls. Biological relatedness was measured by mothers’ and fathers’ reports. We entered this variable as a control because the biological relationship between parents and children has been shown to have implications for parental knowledge (Fisher et al., 2003). Parental figures were coded as either (0) having (e.g., parent, grandparent), or (1) not having (e.g., step-parent) a biological relationship with the child. In this study, 95.72% of children were biologically related to mothers whereas 78.34% of children were biologically related to fathers. Parents also reported the number of years of education they completed, with a score of 12 denoting the completion of high school. We controlled for mothers’ and fathers’ individual education because of previous research indicating differences in sources of knowledge based on level of education (Crouter et al., 2005).
Results

Results are organized by research questions. We first describe mother-father differences in reliance on five sources of knowledge. We then present multilevel models that examined youth age, gender, and parent-child relationship quality predicting sources of knowledge. We also included other family members’ relationship quality as predictors of relying on spouse and siblings. Finally, we describe the results examining youth age and gender as a moderator of the links between parent-child relationship quality and sources of knowledge.

Preliminary Analyses

As Table 3.1 indicates, mothers acquired information most frequently by solicitation. Child disclosure was the second most frequent way mothers learned about their youths’ daily experiences. Finally, mothers relied, in turn, on their spouse, siblings, and POF. For fathers, a similar pattern was found with one important difference: Fathers most frequently relied on their spouse for acquiring information. Second, fathers relied on solicitation, which was followed by youths’ disclosure, relying on siblings, and relying on POF.

To examine mother-father differences in parents relying on sources of knowledge (Question 1), we computed a series of regressions in SAS using a procedure called PROC SURVEYREG which controls for the dependency of observations that occurs when including two children in each family (SAS Institute, 2002). As Table 3.1 indicates, a significant parent effect indicated that mothers reported more child disclosure than did fathers. Mothers also reported asking their children questions more frequently than did fathers. Fathers, in contrast, relied on mothers significantly more than mothers relied on fathers for information. Mothers and fathers did not differ in the amounts that they relied on siblings or POF for information.

Correlations between sources of knowledge. Table 3.2 depicts the correlations between
the sources of knowledge for mothers and fathers. For mothers, correlations revealed significant, positive associations between relying on spouse, siblings, and POF. Additionally, a significant positive correlation was found between mothers’ solicitation and child disclosure and between mothers’ solicitation and spouse keeps informed. Similar patterns were found when examining the interconnections of fathers’ sources of knowledge. For example, significant correlations were found between fathers relying on spouse, siblings, and POF. Additionally, fathers’ solicitation was significantly and positively correlated with child disclosure and spouse keeps informed. Not all of the sources of knowledge were significantly correlated, however. Analyses revealed non-significant links for mothers between child disclosure and siblings keep informed and for fathers between child disclosure and POF keeps informed.

The correlations in Table 3.2 also highlight the interconnectedness between family members’ relationship quality and sources of knowledge. Anticipating a theme in the results, warmer relationships between mothers and target children was correlated with mothers relying on child disclosure, solicitation, and their spouse for information; for fathers, warmer relationship quality with the target child was positively correlated to all five sources. Although analyses revealed that mothers relied more on fathers when fathers had a warm relationship with the target child, fathers did not rely more on mothers when mothers reported a warmer relationship with the target child. Marital quality was strongly linked to relying on spouse for both mothers and fathers, but no link between sibling relationship quality and siblings keep informed was found.

*Predicting Sources of Knowledge*

To address the links between youth characteristics, family member relationship quality, and sources of knowledge, we used a two-level multilevel modeling (MLM) strategy, which
accounts for the nested nature of these data (siblings nested within families; Raudenbush & Bryk, 2002). Level 1 included predictors specific to the individual child (e.g., youth gender and age); Level 2 (the family-level) included predictors that were shared by both children (e.g., mothers’ and fathers’ education).

We conducted these analyses in three steps. In Step 1, we examined the associations between sources of knowledge with the controls, youth characteristics, and parent-child relationship quality, as these predictors were the same for each source of knowledge. We present the results first for mothers and then for fathers in Table 3.3.

In Step 2, we examined the interactions between youth gender, youth age, and parent-child relationship quality. Each interaction was examined in separate models, and we constructed a final model for each source of knowledge for mothers and fathers separately that included all main effects and significant interactions \((p < .05)\). We included the relevant lower-order interactions in the model when we tested the higher-order interactions. Continuous predictors were centered when forming interactions for ease of interpretation.

In the third and final step, we included specific family relationships that we proposed were relevant for particular sources of knowledge; results are represented in Table 4. These models did not include the interactions tested in Step 2.

**Mothers**

**Child disclosure.** For mothers, a negative effect for youths’ linear age indicated that older children disclosed less than did younger children (Figure 3.1). Additionally, an effect for gender indicated that daughters disclosed more to mothers than did sons. Finally, mothers with warmer relationships with their children also enjoyed more self disclosure from their children. No significant interactions were observed.
Solicitation. Only one variable was significantly associated with mothers’ solicitation: mother-target child relationship quality. Mothers with warmer relationships with their children asked their children more questions. As with child disclosure, no moderation effects were observed.

Rely on spouse. Better educated mothers relied less on their spouse compared to less educated mothers. Additionally, mothers with warmer relationships with their children were more likely to rely on their spouse. No interactions were observed.

We examined two additional family relationships as predictors of mothers relying on spouse for information. In a model that included the controls, youth characteristics, mothers’ relationship with the target child, fathers’ relationship with the target child, and marital quality, mothers’ marital quality was the only family relationship that predicted mothers relying on spouse. In other words, the main effect of mother-target child relationship quality that was previously found became non-significant when marital quality was included in the model.

Rely on siblings. Mothers were more likely to rely on siblings for knowledge about non-biologically related children than biologically related children and for information about sons than daughters. Additionally, better educated mothers relied less on siblings compared to less educated mothers. Unlike the three previous sources of knowledge, no links between mother-target child relationship quality and siblings keep informed were observed.

Two interactions were observed. First, a Youths’ Linear Age × Mother-Target Child Relationship Quality interaction ($\gamma = -.19$, $SD = .08$, $t = -2.56$, $p < .05$; Figure 3.3) was significant, which we followed up by testing the link between mother-target child relationship quality and mothers relying on siblings separately for older and younger youth. Whereas a trend-level negative link was found between mother-child relationship quality and relying on siblings
about older youth ($\gamma = -.52, SD = .28, t = -1.90, p < .10$), no link was found between mother-child relationship quality and mothers relying on siblings for younger youth ($\gamma = .27, SD = .17, t = 1.55, ns$).

A second interaction was significantly linked with mothers relying on siblings: Youth Gender $\times$ Quadratic Youth Age ($\gamma = -.04, SD = .05, t = -2.09, p < .05$). To follow-up this interaction, we examined the quadratic age term separately for boys and girls. As Figure 3.4 shows, the trend-level quadratic age effect for boys revealed that mothers relied more on siblings when boys were in early adolescence compared to childhood and later adolescence ($\gamma = -.03, SD = .01, t = -1.93, p < .10$). The quadratic age trend was not significant for girls ($\gamma = -.01, SD = .01, t = -.99, ns$).

We also examined two additional family relationships predicting mothers relying on siblings. In a model that included the controls, youth characteristics, mothers’ relationship with the target child, mothers’ relationship with target child’s sibling, and sibling relationship quality, mothers’ relationship quality with the sibling of the target child was the only family relationship that predicted mothers relying on siblings.

*Rely on POF.* Mothers were more likely to rely on POF for non-biologically related children than biologically related children. A linear age effect signified that mothers were more likely to rely on POF for younger children than older children (See Figure 3.1). Mothers were also more likely to rely on POF for sons than daughters. There were no significant interactions.

*Fathers*

*Child disclosure.* As was the case with mothers, a significant negative effect for linear youth age indicated that older children disclosed less than did younger children. In addition, fathers with warmer relationships with their children also had children who disclosed more about
their daily experiences.

**Solicitation.** Two predictors were related to fathers’ solicitation. First, quadratic youth age was significantly associated with fathers’ solicitation. As Figure 3.2 indicates, fathers reported asking questions less frequently when their children were in early adolescence compared to childhood or later adolescence. Second, as for mothers, fathers with warmer relationships with their children were more likely to ask their children questions.

This finding was qualified by an interaction between youth gender, youth age, and father-target child relationship quality ($\gamma = -15, SD = .06, t = 2.55, p < .01$). We examined the interaction between youth age and father-target child relationship quality separately for sons and daughters. Whereas the two way interaction between relationship quality and youth age was not significant for daughters ($\gamma = .05, SD = .03, t = 1.55, ns$), the interaction was significant for sons ($\gamma = -.08, SD = .03, t = -2.38, p < .05$). As can be seen in Figure 3.5, there was a significant and positive link between father-child relationship quality and fathers’ solicitation for younger ($\gamma = .58, SD = .12, t = 4.77, p < .001$) and older ($\gamma = .25, SD = .09, t = 2.63, p < .01$) sons suggesting that fathers were more likely to ask their sons questions when they had a warm relationship with them. This finding, however, was stronger for younger sons than older sons.

**Rely on spouse.** Analyses revealed that, similar to mothers, better educated fathers relied less on their spouse compared to less educated fathers. Furthermore, quadratic youth age was significantly associated, at a trend level, with spouse keeps informed (Figure 3.2): Fathers relied more on spouse when their daughters were in early adolescence compared to childhood and later adolescence.

This age finding was qualified by an interaction between youth gender, the quadratic youth age term, and father-child relationship quality ($\gamma = .06, SD = .02, t = -2.72, p < .01$). We
examined Quadratic Youth Age × Father-Target Child Relationship Quality separately for boys ($\gamma = .003, SD = .01, t = .21, ns$) and girls ($\gamma = .05, SD = .02, t = 2.79, p < .01$). Because this interaction was significant for girls (but not boys), we examined the quadratic age term separately for girls in warm ($\gamma = .02, SD = .01, t = 1.73, p < .10$) and not so warm ($\gamma = -.05, SD = .02, t = -3.36, p < .01$) relationships with their fathers (see Figure 3.6). For fathers in not so warm relationships with their daughters, the quadratic age term indicated that fathers relied on their spouse more when their daughters were in early adolescence compared to childhood and later adolescence. The reverse pattern was found (at a trend level) for daughters with warm relationships with their fathers: These fathers were less likely to rely on their spouse for information when their children were in early adolescence compared to childhood and later adolescence.

As with mothers, we also examined the associations between two additional family relationships and fathers relying on spouse. In a model that included controls, youth characteristics, father-target child relationship quality, mother-target child relationship quality, and marital quality, fathers’ marital quality was the only relationship within the family that was significantly associated with spouse keeps informed.

*Rely on siblings.* Three main effects were related to fathers relying on siblings. First, better educated fathers were less likely to rely on siblings compared to less educated fathers. Second, quadratic youth age was related to fathers relying on siblings. As Figure 3.2 depicts, fathers were more likely to rely on siblings when the target child was in early adolescence compared to childhood and later adolescence. Third, fathers relied more on siblings in the context of warm father-child relationships.

As with fathers relying on spouse, an interaction between youth gender, quadratic youth
age, and father-child relationship quality was associated with fathers relying on siblings ($\gamma = -.05$, $SD = .03, t = -1.99, p < .05$). We examined Quadratic Youth age $\times$ Father-Target Child Relationship Quality separately for boys ($\gamma = .005, SD = .02, t = .27, ns$) and girls ($\gamma = .06, SD = .02, t = 3.36, p < .01$). Because this interaction was significant for girls (but not boys), we examined the quadratic age term separately for girls in warm ($\gamma = .003, SD = .01, t = .23, ns$) and not so warm ($\gamma = -.06, SD = .02, t = -3.45, p < .01$) relationships with fathers. As Figure 3.7 shows, fathers in not so warm relationships with their daughters relied on siblings more when their daughters were in early adolescence compared to childhood and later adolescence. No link was found between youth age and fathers relying on siblings in the context of warm father-daughter relationships.

We examined the links between the quality of two additional family relationships and fathers relying on siblings. In a model that included the controls, youth characteristics, father-target child relationship quality, father-sibling relationship quality, and sibling relationship quality, two family relationships significantly and positively related to fathers relying on siblings: Fathers’ relationship with the target child and fathers’ relationship with the sibling of the target child.

*Rely on POF.* Two predictors were related to fathers relying on POF: Better educated fathers relied less on POF, and fathers relied on POF more for boys than girls. The gender finding was qualified by an interaction with father-target child relationship quality ($\gamma = .38, SD = .19, t = 2.02, p < .05$). Fathers were more likely to rely on POF when they had better relationships with their sons ($\gamma = .36, SD = .15, t = 2.44, p < .05$); in contrast, no link between father-daughter relationship quality and fathers relying on POF was found ($\gamma = -.05, SD = .15, t = -.32, ns$; Figure 3.8).
Discussion

Although a large amount of research has examined the implications of parental knowledge for youth well-being, little attention has been paid to understanding how parents become knowledgeable. Moreover, the few studies conducted in this area have examined the sources of knowledge in European American or European families. Our study fills in this gap in the research by examining five sources of knowledge in two-parent African American families with two youth. We first investigated the sources through a developmental lens by exploring if parents differentially relied on particular sources for older and younger youth. Second, we incorporated a family systems perspective by exploring how family relationships were linked to parental knowledge acquisition. Our concluding remarks focus on three themes: (a) mother-father differences in sources of parental knowledge, (b) youth age as a correlate of sources of knowledge, and (c) the importance of the larger context of family relationships for how parents become knowledgeable.

Mother-Father Differences

Because many African American families have both a mother and a father involved in daily parenting (Livingston & McAdoo, 2007), the first goal of this research was to explore mother-father differences in their reliance on the five sources of knowledge. Mothers reported higher levels of disclosure and asked their children more questions than did fathers. Fathers, in contrast, relied on their wives more than wives relied on their husbands for information. As with the European American families (Crouter et al., 2005; Waizenhofer et al., 2004), it appears to be common for African American mothers to acquire information from children, either through disclosure or solicitation, and then to share that information with fathers.

These results align with prior work examining dyadic and non-dyadic sources in
European American families. Waizenhofer et al. (2004) found that fathers relied more heavily on spouse for information and that mothers received more information from disclosure and solicitation than did fathers. Consistently, the literature has found that mothers spend more time with children than do fathers (Larson, Richards, Moneta, Holmbeck, & Duckett, 1996), and youth share information more with their mothers than with their fathers (Noller & Callan, 1990; Youniss & Smollar, 1985). As Crouter et al., (1999, p. 256) stated, “Knowing about children’s daily lives is clearly the job of mothers.” It is therefore logical that mothers are proactive in learning about their children’s daily experiences from the child, with some fathers then learning that information from their spouse.

Sources of Knowledge: A Developmental Perspective

One of the major contributions of this study is its examination of the developmental nature of parents’ differential reliance on sources of knowledge. Consistent with previous research (Smetana et al., under review), we found that mothers and fathers reported less disclosure from older youth compared to younger youth. Less disclosure from older youth may reflect two different processes. First, youth may try to exert autonomy from their parents by not disclosing (Collins & Steinberg, 2006). Autonomy, a normative developmental task that takes center stage in adolescence, involves the expression of independence. Youth may feel that withholding details of their daily experiences allows them the independence from parents’ guidance that they seek. This idea aligns with work by Bumpus, Crouter, and McHale (2001), who conceptualized lower parental knowledge as evidence of increased adolescent autonomy. Second, less disclosure from older youth may occur because of the decreased time youth spend with their families as they progress through adolescence (Dubas & Gerris, 2002). Whereas parents’ solicitation may occur in brief interchanges with their children, youth may require
longer periods of time with parents to feel comfortable disclosing. There may simply be fewer opportunities for these types of interactions as youth get older. Even though levels of disclosure decrease throughout adolescence (Smetana et al., under review), it paradoxically may be that child disclosure becomes an even more important source of knowledge for parents during this developmental stage.

In addition, findings revealed several unique patterns for fathers’ sources of knowledge for older and younger youth. Whereas fathers relied less on solicitation for youth who were in early adolescence compared to childhood and later adolescence, fathers relied more on their spouse and siblings at the same developmental period. Social roles, which may make it especially uncomfortable for fathers to have intimate conversation with their children during puberty (Buhrmester & Prager, 1995), may have prompted fathers to ask their children less questions and to rely instead on other family members to stay knowledgeable. As we will discuss below, these patterns varied by youth age for sons and daughters in warm and not so warm relationships with their fathers, pointing to the complexity of these family interactions.

Several sources of knowledge did not vary for older or younger youth, including mothers’ solicitation, mothers relying on spouse and siblings, and fathers relying on POF. These findings may be explained in part because knowledge is seen as a basic parenting responsibility, especially for mothers (Crouter & Head, 2002). This evidence suggests that parents are maintaining, to some degree, their pursuit of information (in the form of asking questions) from their children, spouse, and siblings, knowledge, at periods when they cannot learn information from unsolicited child disclosure.

Taken together, these findings linking youth age and sources of knowledge suggest both continuity and discontinuity within the ways that parents become knowledgeable. One limitation
of this study, however, is that we obtained sources of knowledge at only one point in time. Although we can make some conclusions about parents’ differential reliance on sources of knowledge for older versus younger children, we do not know how these patterns unfold within individuals over time. Future research should examine sources of knowledge longitudinally to understand better how their trajectories map onto youth development.

*Links with Family Relationships*

This paper also examined how multiple relationships in the family predicted how parents became knowledgeable. In line with prior work (Stattin & Kerr, 2000), more accepting parent-child relationships were related to higher levels of parental solicitation, relying on spouse, child disclosure, and fathers relying on siblings. Because these findings were significant for both child disclosure (child-driven phenomenon), and parents’ solicitation and relying on spouse (parent-driven phenomenon), more accepting parent-child relationships appear to motivate both parents to stay knowledgeable and youth to keep their parents informed. These findings lend further support to Smetana’s (2008, p. 20) assertion that “…adolescents’ willingness to disclose their activities to parents is part of a reciprocal process that is rooted in warm and responsive parent-adolescent relationships.” Our findings extend this statement to include sources of knowledge beyond child disclosure.

The links between parent-child relationship quality and sources of knowledge differed for older and younger sons and daughters. For example, fathers relied on solicitation and POF more when they had a better relationship with their sons. These findings may reflect fathers’ personal interest in sons (Crouter et al., 1990); fathers with warmer relationships may spend more time with them, thus providing opportunities for fathers to ask their sons questions. Relatedly, these fathers may be more likely to coach their sons’ sports team or volunteer in their sons’ school,
thus providing more opportunities to rely on POF for information.

The findings indicating that warmer father-son relationships were linked to relying on POF differed to some degree from previous research. In a European American sample, Crouter and colleagues (2005) found that fathers relying on POF indicated a negative family dynamic as relying on others for information was linked to less parental knowledge and more risky behavior over four years. Alternatively, relying on POF was linked to warm relationships between African American fathers of sons, a positive family dynamic. Part of this discrepancy may be due to the umbrella-like nature of this knowledge acquisition category. Some parents may rely on POF out of necessity (when sources closer to home fail), whereas others may rely on POF because they are integrated in their youths’ lives. Further, these findings may reflect differences in the norms of relying on POF for European American/European and African American families. African American families have historically been very integrated into their extended family system (García Coll et al., 1995). For this population, POF might be aunts, uncles, cousins, or grandparents. In future research, more specific questions need to be asked regarding parents relying on extended family members for information, which may help make this measure more culturally sensitive.

In addition to having a direct link with sources of knowledge, the links between relationship quality and sources of knowledge depended to some degree on youth age. Findings revealed that fathers relied more on their spouse and siblings when they had a poorer relationship with their daughters, a finding that was especially strong in early adolescence. These findings may reflect the specialization that occurs within families around parental knowledge, with mothers being more knowledgeable about daughters and fathers about sons (Crouter et al., 1999). Research has also noted that the increased distance in the parent-child relationship around
puberty may be especially significant for fathers and daughters (Paikoff & Brooks-Gunn, 1991), which may lead fathers to rely on others for information during that developmental period.

Because of the cross-sectional nature of the data, we can only conclude that there are links between sources of knowledge and parent-child relationship quality. We cannot make firm conclusions as to the direction of these effects. Does a warm parent-child relationship motivate parents to stay knowledgeable, or does sensing that a parent is interested in knowing the details of a child’s life increase relationship quality? Longitudinal analyses that track both sources of knowledge and parent-child relationship quality over time would provide insight into the direction of these effects.

Although the importance of the parent-child relationship quality for parental knowledge has been acknowledged in the literature, our results indicated that other relationships within the family were also related to parents relying on particular sources of knowledge. Family systems theory emphasizes the interconnectedness of all parts of a system, or in this case, the interconnectedness of family members. The theory holds that we cannot fully understand family processes by only examining one part (e.g., parent-child interactions) of the family system. We found that mothers and fathers with more satisfying marital relationships were more likely to look to their spouse for information. In fact, the quality of the marital relationship overshadowed the quality of the parent-child relationship in predicting parents relying on their spouse for information. These findings lend further support to the links between marital quality and coparenting in families with adolescents (Baril et al., 2007; McHale et al., 2002) and indicate that marital quality can either facilitate or hinder parenting teamwork around staying knowledgeable. In addition, warmer parent-sibling relationships were related to how much parents relied on siblings for information. Taken together, these findings provide further
evidence that information is shared more easily within the context of warm relationships: Parents feel more comfortable asking and children, spouse, and siblings feel more comfortable revealing.

No links were found between the quality of the sibling relationship and parents relying on siblings for information, which may have occurred because competing family processes may have canceled each other out. We predicted that warm sibling relationships would be related to parents relying on siblings for information, building on the notion that information exchange about daily experiences is facilitated within the context of warm relationships; this process may occur in some families. In contrast, parents may learn information from siblings through tattle-telling, with children’s primary intention to get their siblings in trouble. It may also be that siblings with close relationships may share details of their daily experience with each other but intentionally not share that information with parents because of their close connection (Howe et al., 1995). In these cases, warmer family relationships did not necessarily facilitate parents relying on siblings. Future analyses should disentangle these processes and further understand the conditions under which parents rely on siblings for information.

It is important to note that we focused exclusively on the contribution of positivity/warmth dimensions of family relationships to sources of knowledge, but we recognize that there are multiple dimensions of relationship quality that may differentially impact this family process, including conflict (Laursen et al., 1998) and power (Zipp, Prohaska, & Bemiller, 2004). More research needs to explore how other dimensions of relationship quality relate to how parents become knowledgeable.

**Conclusion**

The importance of parental knowledge cannot be underestimated. Throughout the past 60 years, parental knowledge of youths’ experiences has been found to be a consistent and positive
correlate of youth well-being (Crouter & Head, 2002). To better inform interventionists, policy makers, and practitioners as to how to effectively promote parental knowledge, research needs to more thoroughly understand the different pathways through which parents become knowledgeable. This study advances the field in two significant ways. Using a sample of two-parent African American families, we first examined sources of knowledge with a developmental lens and studied how parents’ reliance on sources differed for older and younger youth; our results point to both continuity and discontinuity in the ways parents become knowledgeable across childhood and adolescence. Second, this study focused on how relationship quality among multiple dyads within the family contributed to how parents became knowledgeable. By expanding our focus from narrowly examining the parent-child dyad to examining the family unit as a whole, we captured both direct and indirect influence family members have on each other; this research points to the complexity of the processes that give rise to parental knowledge in families.
References


Table 3.1

Sources of Mothers’ (N = 187) and Fathers’ (N = 179) Knowledge: Correlations, Means, and SDs

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<td>1 - 5</td>
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Note. POF: People Outside the Family

†< .10. *p < .05. **p < .01. ***p < .001.
Table 3.2

Correlations between Youth Characteristics, Family Members’ Relationship Quality, and Sources of Mothers’ (N = 187) and Fathers’ (N = 179) Knowledge

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<td>0.01</td>
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<td>0.36***</td>
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<td>0.08</td>
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<td>0.19***</td>
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<td>0.18***</td>
<td>0.03</td>
<td>0.17**</td>
<td>0.22</td>
</tr>
</tbody>
</table>

Fathers’ (N = 179) Knowledge

Note. Bottom half of the table represents mothers’ correlations; upper half of the table represents fathers’ correlations. TP = Target Parent; S = Spouse of Target Parent; TC = Target Child; Sib = Sibling of Target Child; POF = People Outside the Family.

*Biological relatedness between parent and child: 0 = biological relationship, 1 = no biological relationship. bYouth gender: 0 = female; 1 = male;

†p < .10. *p < .05. **p < .01. ***p < .001.
Table 3.3

Multilevel Model Results Predicting Sources of Knowledge with Youth Characteristics and Parent-Child Relationship Quality

<table>
<thead>
<tr>
<th>Mothers’ Models</th>
<th>Child Disclosure</th>
<th>Solicitation</th>
<th>Rely on Spouse</th>
<th>Rely on Siblings</th>
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<td></td>
<td>Gamma</td>
<td>SE</td>
<td>T-ratio</td>
<td>Gamma</td>
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<tr>
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<td>Bio. relat. a</td>
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<td>.11</td>
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<tr>
<td>Age</td>
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<td>.02</td>
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<td>.01</td>
</tr>
<tr>
<td>Age*age</td>
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<td>.01</td>
<td>.99</td>
<td>-.01</td>
</tr>
<tr>
<td>Youth gender b</td>
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<td>.06</td>
<td>-3.77***</td>
<td>.03</td>
</tr>
<tr>
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<td>.02</td>
<td>.37</td>
<td>.007</td>
</tr>
<tr>
<td>TP - TC rel. qual.</td>
<td>.42</td>
<td>.06</td>
<td>6.77***</td>
<td>.34</td>
</tr>
</tbody>
</table>

(Mothers: N = 187; Fathers: N = 179)

Fathers’ Models

| Intercept       | 3.56  | .06 | 63.06***| 3.73  | .06 | 60.93***| 4.04  | .07 | 55.15***| 2.98  | .09 | .1   |
| Bio. relat. a   | -.13  | .09 | -1.48   | .07   | .09 | .70    | -.03  | .11 | -.29    | .04   | .14 | .1   |
| Age             | -.05  | .02 | -2.99** | -.02  | .02 | -1.46  | -.03  | .02 | -1.59   | .01   | .03 | .1   |
| Age*age         | .01   | .01 | 1.42    | .01   | .01 | 2.74** | -.01  | .01 | -1.68†  | -.02  | .01 | .1   |
| Youth gender b  | -.05  | .06 | -.88    | .11   | .06 | 1.77‡  | .09   | .07 | 1.26    | .08   | .09 | .1   |
| TP educ.        | .03   | .02 | 1.92‡   | .03   | .02 | 1.40   | -.07  | .02 | -3.15** | -.10  | .03 | .1   |
| TP - TC rel. qual. | .34   | .05 | 6.35*** | .39   | .06 | 6.71***| .12   | .07 | 1.70‡   | .32   | .09 | .1   |

Note. TP = Target Parent; TC = Target Child; POF = People Outside the Family.

aBiological relatedness between parent and child: 0 = biological relationship, 1 = no biological relationship. bYouth gender: 0 = female, 1 = male.

†<.10. *p <.05. **p <.01. ***p <.001.
Table 3.4

Multilevel Model Results Predicting Mothers’ (N = 187) and Fathers’ (N = 179) Relying on Spouse and Siblings with Youth Characteristics and Family Members’ Relationship Quality

<table>
<thead>
<tr>
<th></th>
<th>Mother Rely on Spouse</th>
<th>Mother Rely on Siblings</th>
<th>Father Rely on Spouse</th>
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<td>T-ratio</td>
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<td>TP – TC rel. qual.</td>
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<td>.29</td>
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<td>S – TC Rel. qual.</td>
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<tr>
<td>Sib - TC rel. qual.</td>
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<td>–</td>
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</table>

Note. TP = Target Parent; S = Spouse of Target Parent; TC = Target Child; Sib = Sibling of Target Child.

*Biological relatedness between parent and child: 0 = biological relationship, 1 = no biological relationship. Youth gender: 0 = female, 1 = male.

†< .10. *p < .05. **p < .01. ***p < .001.
Figure Captions

Figure 3.1  Associations between Youth Age and Sources of Mothers’ Knowledge

Figure 3.2  Associations between Youth Age and Sources of Fathers’ Knowledge

Figure 3.3  Mothers Relying on Siblings as a Function of Youth Age and Mother-Child Relationship Quality

Figure 3.4  Mothers Relying on Siblings as a Function of Youth Gender and Age

Figure 3.5  Fathers’ Solicitation as a Function of Son Age and Father-Son Relationship Quality

Figure 3.6  Fathers Relying on Spouse as a Function of Daughter Age and Father-Daughter Relationship Quality

Figure 3.7  Fathers Relying on Siblings as a Function of Daughter Age and Father-Daughter Relationship Quality

Figure 3.8  Fathers Relying on People Outside the Family as a Function of Youth Gender and Father-Child Relationship Quality
Figure 3.1
Figure 3.2

[Graph showing trends in Fathers' Sources of Knowledge over ages 8 to 19.](#)
Figure 3.3

Mothers Relying on Siblings

<table>
<thead>
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<th>Mothers Relying on Siblings</th>
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<td>5</td>
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</table>

Older youth

Younger youth
Figure 3.4

Mothers Relying on Siblings

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</tr>
<tr>
<td>9</td>
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<td>2.5</td>
</tr>
<tr>
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<td>14</td>
<td>4.5</td>
<td>5.0</td>
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</tbody>
</table>

Youths' Age
Figure 3.5

The graph illustrates the relationship between fathers’ solicitation of sons and father-son relationship quality. Two distinct groups are shown: younger sons and older sons. The x-axis represents low and highfather-son relationship quality, while the y-axis shows fathers’ solicitation of sons. The graph indicates a trend where solicitation increases with higher relationship quality for both younger and older sons.
Figure 3.6
Figure 3.7
Figure 3.8

[Graph showing the relationship between Father-Child Rel. Qual. and Fathers Relying on POF for boys and girls.]
CHAPTER 4

Parental Knowledge and its Links to Adolescent Well-Being:

Exploring Three Measurement Approaches

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Abstract

Parental knowledge has consistently been associated with adolescent well-being, but conceptualization and measurement have been inconsistent, with some researchers measuring parents’ or youths’ perceptions of knowledge and others daily knowledge. Data were gathered via home and telephone interviews with mothers, fathers, and adolescents (N = 175 families). In multilevel models that included three distinct parental knowledge indicators, mothers’, fathers’, and youths’ perceived parental knowledge were each negatively related to youths’ risky behavior. Moreover, adolescents reported fewer depressive symptoms when mothers and fathers were seen as more knowledgeable. Independent of perceived knowledge, when fathers’ daily knowledge was higher, youth reported fewer depressive symptoms. Furthermore, when youth perceived fathers to be more knowledgeable, fathers’ daily knowledge was not linked to youths’ risky behavior, but when youth perceived their fathers as less knowledgeable, fathers’ daily knowledge was related to fewer risky behaviors. The discussion underscores the importance of multi-method approaches to measuring parental knowledge.

Keywords: adolescence, measurement, parental knowledge, risk and resilience
Parental Knowledge and its Links to Adolescent Well-Being:

Exploring Three Measurement Approaches

Parental knowledge (also referred to as parental monitoring) refers to the degree to which parents are informed about their youths’ daily experiences. A robust picture has emerged linking parental knowledge and adolescent well-being: Despite normative increases in risky behavior and depressive symptoms in adolescence (Ge, Conger, & Elder, 2001; McCord, 1990), parents with higher levels of knowledge tend to have youth who are happier, better behaved, and better adjusted (see review by Crouter & Head, 2002). These findings led Dishion and McMahon (1998) to argue that interventions focused on parental knowledge are vital for families with adolescents. Measurement of parental knowledge/monitoring, however, has been largely inconsistent creating a conceptual fuzziness in the field and necessitating clarification.

Conceptualization and Measurement of Parental Knowledge

A large body of research has examined the links between parental knowledge/monitoring and youth well-being. Generalizing across studies is difficult, however, because conceptualization and measurement of this construct have been inconsistent (Hayes, Hudson, & Matthews, 2003). Research in this area initially focused on parental monitoring and was predicated on the assumption that most information parents knew about their children came from their tracking and surveillance behaviors (Crouter & Head, 2002). Stattin and Kerr (2000) were the first to suggest, however, that many measures purporting to measure parental monitoring actually measure parental knowledge. Moreover, these authors found in a Swedish sample that parents were more likely to be informed from their children’s disclosure than from their own tracking and surveillance behaviors.

Since this seminal work, the field has been trying to clarify the nature of parental
knowledge and how to appropriately measure it. A range of constructs have been measured under the label of parental monitoring/knowledge, including youths’ strategic self-disclosure, actual knowledge (parents’ familiarity with their youths’ daily experiences), parental supervision (parents’ tracking behaviors), and parents’ and youths’ perceptions of how much parents know. This paper triangulates three measures of parental knowledge to understand their uniqueness and overlap: parents’ perceptions of their knowledge, youths’ perceptions of parental knowledge, and parents’ actual knowledge (which we refer to as daily knowledge). We now discuss each in turn.

One of the most frequently used measures of parental knowledge asks parents to report how much they know about their youths’ daily experiences. These measures include items such as, “How often do you know what specific homework your child has?” (Stattin & Kerr, 2000). Research has found links between parents’ perceptions of their knowledge and adolescent well-being (Fisher, Leve, O’Leary, & Leve, 2003; Kilgore, Snyder, & Lentz, 2000). For example, in a rural sample, Brody (2003) found that African American mothers who saw themselves as knowledgeable had youth whose externalizing behaviors declined across a three year period.

This measure is advantageous in that it goes to the source and asks parents to rate how knowledgeable they perceive themselves to be. This measure of knowledge may act as a proxy for parents’ self-efficacy with respect to parenting, as parents who think they are knowledgeable may feel better equipped to successfully parent their adolescent. The primary disadvantage of this measurement approach is that parents may not be aware of what they do not know, in part because adolescents may be secretive or lie to their parents (Finkenauer, Engels, & Meeus, 2002). In addition, this measure may be influenced by social desirability. Being knowledgeable about youths’ activities is seen by many as a basic parenting responsibility, making it difficult, perhaps, for some parents to admit a lack of knowledge.
A second approach asks adolescents to rate their perceptions of parental knowledge with items including, “How much do your parents REALLY know about who your friends are?” (Fletcher, Steinberg, & Williams-Wheeler, 2004; Laird, Pettit, Bates, & Dodge, 2003; Steinberg, Fletcher, & Darling, 1994). Fletcher, Darling, and Steinberg (1995) found that youth who reported that their parents were less knowledgeable also reported higher levels of substance use.

One advantage of this approach is that youth may be more accurate reporters of parental knowledge, because they may not be as influenced by social desirability as parents might be (Hayes et al., 2003). Measures assessing adolescents’ perceptions of knowledge, however, are subject to potential biases. For example, youth reports may be influenced by negative cognitions. As Hayes et al. (2003, p. 16) stated, “…where an adolescent is experiencing family problems, they may also report negative attitudes to parental monitoring. For example, they may report their parents do not care enough to monitor or report their parents are too strict.” Second, adolescents may not have an accurate picture of what their parents know. Parents have multiple sources of knowledge, some of which do not directly involve the adolescent (Crouter, Bumpus, Davis, & McHale, 2005). Children may not be aware of their parents’ activities to obtain knowledge and therefore may not be accurate reporters of their parents’ knowledge.

A third approach assesses parents’ daily knowledge (Crouter, Helms-Erikson, Updegraff, & McHale, 1999; Kerns, Aspelmeier, Gentzler, & Grabill, 2001; Waizenhofer, Buchanan, & Jackson-Newsom, 2004). Instead of relying on how much family members think parents know, this measure attempts to capture the amount of information that parents actually know about their children’s daily experiences. Daily knowledge can be evaluated through a series of telephone calls whereby parents and adolescents independently answer questions about the youths’ activities and whereabouts that day. Parents receive a score based on the degree to which
their answers match their youths’ answers (Crouter et al.).

One advantage of this approach is that it is inherently dyadic because it does not rely solely on one family member’s perceptions. Daily knowledge measures, however, typically assess parental knowledge over a limited number of days which is a potential disadvantage because a few days may not accurately reflect the norm. Second, parents are given credit only when it matches their youths’ answer, but youth may make mistakes or deliberately mislead interviewers. No one method is likely to provide the complete picture. To date, however, no study has systematically triangulated these three approaches to measuring parental knowledge.

This paper examined the links between these three knowledge indicators. By comparing these measures of knowledge in a single investigation, we are able to see the degree of interconnection among them as well as to explore their unique links to youth well-being. This approach is based in the multitrait-multimethod (MTMM) framework, which emphasizes the importance of measuring constructs in different methods and produces multiple lines of evidence for a more thorough understanding (Campbell & Fiske, 1959). Specifically, we examined the degree to which the three knowledge measures were associated to understand their similarities.

A Within-Family Look at Parental Knowledge

It is important to consider the complexity that exists within the family system. As with the families in this study, many families have a mother-figure and a father figure actively involved in day to day parenting of youth, and parenting differences have also been found for mothers and fathers of sons and daughters (e.g., Crouter et al., 1999). Adding to the complexity, research has also noted that family members often do not experience the same environment in the same way (Cox & Paley, 1997).

A small body of work has examined this within-family complexity with respect to
parental knowledge. Crouter and Head (2002) noted only moderate correlations (~ .30) between parents’ and youths’ perceptions of parental knowledge, with parents thinking they are more knowledgeable than adolescents do. If parental knowledge perception measures assessed something objective about the family, we would expect the correlation between parents’ and youths’ perceptions to be higher. Several explanations have been offered for these discrepancies, including the ambiguousness of the time frame parents and children are instructed to report on and the influence of social desirability on parents’ reports (Crouter & Head). These findings may also be partially explained by the fact that “adolescents…granted parents less of a right to know about peers than parents claimed for themselves” (Brown, Bakkan, Nguyen, & Von Bank, 2007, p. 79). In other words, these differences in perceptions of knowledge may be based in family members’ differing cognitions about what parents have the right to know. Because parents and children often do not see eye to eye on parental knowledge, we examined both parents’ perceptions of their knowledge and youths’ perceptions of their parents’ knowledge.

Parental knowledge differs based on both parent and youth gender. With respect to parent gender, previous studies have found that mothers have higher levels of daily knowledge than do fathers (Crouter et al., 1999; Waizenhofer et al., 2004). This may be due in part to differences in mother-child and father-child relationships in adolescence. Whereas mother-child relationships are typically warmer than father-child relationships, fathers provide more instrumental help to their children than do mothers (Steinberg & Silk, 2002). With respect to youth gender, both mothers and fathers are more knowledgeable about their girls than their boys (Fletcher et al., 1995; Waizenhofer et al.). Taking a within-family perspective, this gender difference may be more complex. Crouter and colleagues found a tendency for mothers to specialize in daughters and fathers to specialize in sons in families that had both a son and a daughter, compared to
families that had either two sons or two daughters. To examine these within family associations, we examined the correlations of three knowledge indicators separately for mothers and fathers.

*Parental Knowledge and Adolescent Well-Being*

Much work has explored the links between parental knowledge and youth well-being. For example, lower levels of parental knowledge have been associated with higher levels of substance use (Fletcher et al., 1995; Mott, Crowe, Richardson, & Flay, 1999) and sexual activity (Ensminger, 1990) in adolescence. Fletcher and colleagues (2004) noted that youths’ perceptions of parental knowledge predicted youths’ substance use, even when controlling for parents’ tracking and surveillance behaviors, parental control, and parental acceptance. Further, Waizenhofer et al. (2004) found negative associations between mothers’, but not fathers’, daily knowledge and youths’ delinquency. Several proposed mechanisms have been suggested explaining these associations from both youths’ and parents’ perspectives. For example, youth with parents who are interested in their daily experiences may feel especially safe and secure, facilitating youths’ sharing of information with parents. Parents then, in turn, can take that information to more effectively parent their children, for example, by limiting opportunities for interactions with deviant peers (Dishion, Patterson, Stoolmiller, & Skinner, 1991).

Previous research is limited in that some studies have examined only mothers’ knowledge instead of both mothers’ and fathers’ knowledge (Brody, 2003; Chilcoat, Breslau, & Anthony, 1996). Equally problematic, sometimes adolescents have been asked to assess parental knowledge for their parents as a unit instead of separately for mothers and fathers (Statton & Kerr, 2000), which does not allow us to understand possible mother-father similarities and differences in knowledge. We fill in a gap in the literature by examining links between *both* mothers and fathers’ knowledge and adolescent risky behavior and depressive symptoms.
Another aspect of well-being we explored was youths’ depressive symptoms. Although several studies have examined the associations between parental knowledge and youths’ internalizing symptom, this work is limited to a few studies and has not produced consistent results. Kerr and Stattin (2000) found significant links between youths’ depressed mood, self-esteem, and failed expectations and both parents’ and youths’ perceptions of knowledge whereas Waizenhofer and colleagues (2004) did not find significant links between parents’ daily knowledge and youths’ depressive affect. Because of these findings, Jacobson and Crockett (2000) suggested that parental monitoring may be less important for internalizing behaviors than externalizing behaviors. It may be, however, that parents perceive themselves to be less knowledgeable if they live with a sullen, withdrawn adolescent, especially if the adolescent does not share information about daily experiences. It may also be that parents who are more knowledgeable may be more equipped to support their adolescent by potentially alleviating some of the negative affect around the normative changes in adolescence. If different knowledge indicators tap into different aspects of parental knowledge, it also may be that the links between knowledge and depressive affect vary as a function of the knowledge indicator, warranting further investigation.

Furthermore, in two-parent families, such as the families examined here, both mothers and fathers may play an active parenting role. Based on previous research (Howard, Carothers, Smith, & Akia, 2007), we hypothesized that having two knowledgeable parents would each contribute uniquely to the prediction of youth well-being. We tested this hypothesis by examining the links between both mothers’ and fathers’ knowledge and youth well being in the same model. Evidence supporting this hypothesis would be if both mothers’ and fathers’ knowledge predicts unique variance in youth well-being.
Exploring Moderating Effects

We explored three moderators of the links between parental knowledge and youth well-being. First, we explored whether the parental knowledge indicators operated in combination to predict youth well-being. Specifically, we examined whether the links between parents’ perceptions of knowledge were moderated by youths’ perceptions of knowledge, whether youths’ perceptions were moderated by daily knowledge, and whether parents’ perceptions were moderated by daily knowledge. Although no specific a priori hypotheses were articulated, we proposed that the strongest links between knowledge and youth well-being would occur in the families that were high on two knowledge measures.

Second, youth age has been determined to be an important correlate of parental knowledge. For example, Crouter and colleagues (1999) found that parents were less knowledgeable about older children (11-years-old on average) than about younger children ((11-years-old on average). We take these findings one step further and suggest that the links between parental knowledge and youth well-being may vary to some degree as a function of youth age for several reasons. First, older children, especially when they enter adolescence, may have a more realistic picture of what their parents know. Additionally, parental knowledge may be especially important and protective for older youth, as rates of depressive symptoms and risky behavior increase in adolescence (Ge et al., 2001; Horwitz & White, 1987). In addition to the rates of these behaviors increasing, there also may be more variability around these behaviors for parental knowledge to predict in older compared to younger youth. We hypothesized that parental knowledge would be more strongly related to well-being for older than younger youth, leading us to explore youth age as a moderator of the links between parental knowledge and youth well-being.
Finally, previous research suggested that the links between parental knowledge and youth well-being varied for boys and girls (Crouter, MacDermid, McHale, & Perry-Jenkins, 1990). Fletcher and colleagues (1995) found gender differences in the links between parental knowledge and deviance such that boys and girls who had similar levels of alcohol and drug use, girls reported much higher levels of parental knowledge than boys; however, Waizenhofer and colleagues (2004), using a daily knowledge measure, did not find gender differences in the links between mothers’ daily knowledge and youths’ deviance. We explored whether gender differences depend on the knowledge indicator, by examining youth gender as a moderator between three indicators of knowledge parental knowledge and youth well-being. Moreover, mothers’ and fathers’ socioeconomic status generally, and parents’ education specifically (e.g., Crouter et al., 1999) have also been positively associated with parental knowledge, leading us to control for these effects in the analyses.

**Summary of Research Questions**

This study addressed two sets of research questions. First, we examined the three approaches to measuring parental knowledge, asking: (a) To what degree are the knowledge indicators associated? (b) Do these associations vary for mothers and fathers? Second, we examined links between parental knowledge and adolescent well-being, asking: (a) Do the three knowledge indicators, alone and in combination, predict youth well-being? (b) Is there an added benefit of having two knowledgeable parents compared to just one? (c) Do the links between knowledge and well-being vary as a function of youth age or gender?

**Method**

**Participants**

Participants were drawn from the sixth wave of a longitudinal study examining gender
development across childhood and adolescence, because this was the phase that contained the measures of interest. Participants were recruited via letters to families of youth in the fourth or fifth grade in eighteen rural and urban school districts in a mid-Atlantic state. These letters described the research project and criteria for participation which included: (a) always married parents, (b) a firstborn child in the fourth or fifth grade, and (c) a sibling one to four years younger. Families returned postcards indicating their interest, and follow-up phone calls were made to determine eligibility. Over 90 percent of the families that returned post cards agreed to participate.

Of the original 203 families participating in this study, 175 mothers and children and 163 fathers and children were included in the mother-only and father-only models respectively. Our final analyses that incorporated both mothers and fathers included 161 couples. Five families withdrew from the study during the course of the investigation, and four families did not participate in this phase. One mother, ten fathers, two firstborn children, and one secondborn child did not participate in this phase although their other family members did participate. Finally, 15 mothers and 18 fathers had missing data on one or more measures.

The sample, like the communities from which it was drawn, was almost exclusively European American. The average ages of mothers, fathers, firstborn and secondborn adolescents were 42.31 (SD = 3.99; Range = 33 - 54), 44.54 (SD = 5.13; Range = 33 - 72), 16.47 (SD = .80; Range = 14 - 18), and 13.88 (SD = 1.15; Range = 11 - 16) years, respectively. Average family income was $83,204 (SD = $40,457; Range = $26,000 - $260,000).

Procedure

Two data collection procedures were used. First, families were interviewed in their homes. The lead interviewer gave a general introduction to the family, during which the family
was paid a $200 honorarium and informed consent/assent was obtained from each family member. The interviewers divided into teams, with the lead interviewer interviewing the parents and the second interviewer interviewing the adolescents. The parents’ interview consisted of a section they completed together followed by individual interviews; youth were interviewed consecutively.

Second, a series of five evening phone calls with family members were conducted two to three weeks after the home interview in which parents and youth answered questions about youths’ daily experiences. The calls were conducted on weekdays and lasted 30 to 45 minutes each.

**Measures**

*Parents’ perceptions of knowledge* were obtained using a 9-item scale (e.g., “How often [over the past year] do you know what your child does in his/her free time?”; Stattin & Kerr, 2000). Response options ranged from 1 (*almost never*) to 5 (*almost always*). To minimize contamination, mothers (*M* = 39.49; *SD* = 4.41; *Range* = 18 – 45) and fathers (*M* = 36.03; *SD* = 4.81; *Range* = 17 – 45) rated their perceptions of knowledge of their first and secondborn children in separate sections of the interview. Cronbach’s α’s were above .78.

*Youth’ perceptions of knowledge* were measured with a 9-item scale similar to the parents’ measure. Response options ranged from 1 (*almost never*) to 5 (*almost always*) and included “How often does your [mother/father] know what you do in your free time?” Adolescents completed this measure separately for mothers (*M* = 34.76; *SD* = 6.55; *Range* = 9 – 45) and fathers (*M* = 30.26; *SD* = 7.76; *Range* = 9 – 45) in different parts of the interview. Cronbach’s α’s ranged from .85 - .92.

*Daily knowledge* was obtained through a series of three telephone calls. Mothers, fathers, and adolescents were asked a series of 18 questions (6 per night) regarding the youths’
experiences that day. Different questions were asked each night so that parents could not anticipate the questions. Parents answered the questions separately for each child. Each question was asked in two parts. First, a yes or no question was asked regarding the adolescent’s potential involvement in an activity that day (e.g., “Did [your adolescent, you] talk to any friends on the phone today?”). If the answer was yes to the first question, a follow-up question was asked (e.g., “What friend(s) did [your adolescent, you] talk to?”). If the parent and adolescent disagreed on whether the activity had occurred, the parent received a score of zero. If the parent and adolescent agreed that the event had occurred but disagreed on the details of the event, the parent received a score of one. If the parent and adolescent agreed on the event and the details of the event, the parent received a score of two. Independent raters coded the answer matches reliably (Crouter et al., 1999). The parental knowledge score reflected the percentage of matches between youths’ and parents’ answers with high scores indicating high levels of daily knowledge. Scores were multiplied by 50 which made the range 0 -100 (Mothers: \( M = 76.04; \) \( SD = 12.97; \) \( \text{Range} = 33 - 100; \) Fathers: \( M = 67.67; \) \( SD = 16.36; \) \( \text{Range} = 22 - 100 \)).

*Risky behavior* was obtained with 17 questions from the Michigan Study of Adolescent Life Transitions (Eccles & Barber, 1990). Adolescents rated the frequency of their risk-taking behavior, ranging from never to more than 10 times over the previous year. Items included how often youth skipped school, lied to parents about something important, or used drugs (\( M = 25.16; \) \( SD = 7.34; \) \( \text{Range} = 18 - 58 \)). Cronbach’s \( \alpha \)’s ranged from .89 - .91. Because this variable was skewed to the left of the midpoint on the scale, analyses were computed with a log transformation.

*Youths’ depressive symptoms* were obtained with 26 items from the Child Depression Inventory (Kovacs, 1981). Adolescents (\( M = 6.77; \) \( SD = 6.14; \) \( \text{Range} = 0 - 46 \)) chose the answer
most salient to them over the previous two weeks (e.g., “I hate myself, I do not like myself, I like myself”; Cronbach’s $\alpha > .86$). Because this variable was skewed to the left of the midpoint on the scale, analyses were computed with a log transformation.

Youth characteristics. Youth gender was obtained during the home interview and was coded: (0) female (50.53%), and (1) male. Youth age was calculated by subtracting the interview date from the birth date parents reported in the home interview.

Controls: Mothers’ and fathers’ education. We controlled for mothers’ ($M = 14.78, SD = 2.19; Range = 12 - 20$) and fathers’ ($M = 14.84, SD = 2.45; Range = 11 - 20$) education in the analyses, because of previous research linking parental knowledge to education level (Crouter et al., 1999). Parents reported the number of completed years of education, with a score of 12 denoting completion of high school.

Results

Results are organized by research questions. We first present the results examining the overlap and uniqueness of the three knowledge indicators for mothers and fathers. We then present the multilevel models that examined the associations between the knowledge indicators and youth well-being.

Associations between Knowledge Indicators

Our first aim was to describe the three knowledge measures. Correlations were conducted on stacked data (including two siblings from each family), controlling for the dependency of observations. Following, analyses exploring mother-father differences are described.

Correlations between knowledge indicators. We examined the correlations between the knowledge indicators to understand to what degree these knowledge indicators assessed the same construct. As Table 4.1 shows, the correlation between youths’ and parents’ perceptions of
knowledge was moderate for both mothers and fathers. For mothers, weak but significant correlations were found between daily knowledge and their perceptions of their knowledge; these associations were slightly stronger for fathers. The correlations between parents’ daily knowledge and youths’ perceptions of parental knowledge were weak but significant. These correlations do represent some degree of convergent validity, because they were significantly different from zero. Because these correlations were not especially strong, however, they also appear to be tapping into unique aspects of parental knowledge.

Correlations between knowledge, parent education, and youth characteristics. Fathers who saw themselves as more knowledgeable were better educated and had wives who were better educated (See Table 4.1). Fathers’ education was also significantly and positively associated with youths’ perceptions of fathers’ knowledge, youths’ perceptions of mothers’ knowledge, and mothers’ perceptions of knowledge. Although mothers’ education was not correlated with their daily knowledge or their perceptions of knowledge, daughters of more educated mothers reported that their mothers were more knowledgeable. A consistent pattern across all three knowledge indicators revealed that family members reported less parental knowledge of older than younger youth. No gender differences were found in daily knowledge or parents’ perceptions of knowledge, but daughters reported that their mothers were more knowledgeable than did sons; this same pattern was found, at a trend level, for youths’ ratings of their fathers’ knowledge.

Correlates of youth well-being. Significant correlations were found between youth gender and well-being such that boys engaged in more risky behavior, and girls reported more depressive symptoms. Although mothers’ education was not associated with adolescent well-being, fathers’ education was: Youth with less educated fathers reported more risky behavior and
depressive symptoms. Finally, older youth were more likely to report risky behaviors and, at a
trend level, depressive symptoms.

*Mother-father differences in knowledge.* To examine mother/father differences in the
three knowledge indicators, we computed a series of regressions controlling for the dependency
of observations that occurs by including two children in each family (PROC SURVEY REG;
SAS Institute, 2002). A similar picture was found for each of the knowledge indicators: Mothers
were significantly higher than fathers on youths’ perceptions of knowledge, $F(1, 186) = 165.77,$
$p < .001,$ parents’ perceptions of knowledge, $F(1, 193) = 121.14,$ $p < .001,$ and daily knowledge,$F(1, 186) = 53.71,$ $p < .001.$

*Associations between Parental Knowledge and Adolescent Well-Being*

Two-level multilevel models (MLM) were used to predict adolescents’ risky behavior
and depressive symptoms. MLM was chosen because it takes into account the dependency of
observations that occurs because of the nested nature of the data (siblings nested within families;
Raudenbush & Bryk, 2002). Interactions of parental knowledge and youth gender and age were
examined. (Interactions with birth order were also examined, but because of issues of
multicolinearity with youth age and more robust findings with age, birth order was dropped from
these analyses.) We also examined interactions among the three knowledge indicators.

Our first models examined the links between parental knowledge and adolescent well-
being separately for mothers and fathers. Our subsequent models included both mothers and
fathers in order to determine whether there was an added effect of having two knowledgeable
parents. In each case, we first presented a main effects model followed by a model containing
significant interactions. Each interaction was first tested alone in a model along with the controls
and knowledge main effects. The final models included only interactions that had been
significant at the $p < .05$ level. Effects that were significant at $p < .05$ were followed up by grouping individuals who were one standard deviation above and below the average to understand the direction of the associations. For comparative purposes, the final models are parallel for mothers and fathers; that is, if an interaction was significant for one parent, it was included in both parents’ final models.

*Mothers: Risky behavior—Model A.* Results for mothers’ and fathers’ individual models are presented in Table 4.2. Results indicated that boys engaged in more risky behavior than did girls, and older youth engaged in more risky behavior than younger youth. Mothers’ perceptions of knowledge were significantly associated with youths’ risky behavior such that adolescents engaged in less risky behavior when mothers saw themselves as more knowledgeable. Youths’ perceptions of maternal knowledge were also uniquely related to risky behavior in the same direction, but this effect was qualified by an interaction with youth age. As Figure 341 shows, when children saw their mothers as knowledgeable, youths’ risky behavior was not significantly different for older than younger children ($\gamma = 0.006, SD = 0.004, t = 1.61, ns$), but when children saw their mothers as less knowledgeable, youths’ risky behavior were higher for older adolescents ($\gamma = 0.02, SD = 0.004, t = 6.02, p < .001$).

*Mothers: Depressive symptoms—Model B.* Analyses indicated that girls reported more depressive symptoms than did boys. Youths’ perceptions of maternal knowledge were the only significant main effect predictor of depressive symptoms (See Table 4.2). The more knowledgeable children perceived their mothers to be, the fewer depressive symptoms children reported. As seen in Figure 4.2, an interaction between youth gender and youths’ perceptions of mothers’ knowledge indicated that youth who perceived their mothers as more knowledgeable had fewer depressive symptoms; this finding held for both boys ($\gamma = -0.02, SD = 0.01, t = -2.20$,
boys ($\gamma = -0.05, SD = 0.01, t = -5.43, p < .001$), but was stronger for girls.

**Fathers: Risky behavior—Model C.** Boys reported more risky behavior than did girls, and older youth reported more risky behavior than did younger youth. More educated fathers had sons who reported less risky behavior. Higher levels of both fathers’ and youths’ perceptions of knowledge were linked to fewer risky behaviors. An interaction between fathers’ daily knowledge and youths’ perceptions of fathers’ knowledge indicated that if children rated their father as more knowledgeable, fathers’ daily knowledge did not predict risky behavior ($\gamma = -0.0006, SD = 0.003, t = -0.18, ns$). When children perceived their fathers as less knowledgeable, however, children engaged in less risky behavior when fathers knew more on a daily basis ($\gamma = -0.02, SD = 0.003, t = -5.47, p < .001$; Figure 4.3).

**Fathers: Depressive symptoms—Model D.** Girls reported more depressive symptoms than did boys. Moreover, two types of paternal knowledge were significantly related to depressive symptoms. Fathers’ daily knowledge was associated with depressive symptoms, with greater daily knowledge associated with fewer depressive symptoms. Higher levels of youths’ perceptions of fathers’ knowledge were also significantly linked to fewer depressive symptoms. As Figure 4.4 indicates, an interaction between youths’ perceptions of fathers’ knowledge and youth gender indicated that youth who perceived their fathers as more knowledgeable had fewer depressive symptoms. This finding held for both boys ($\gamma = -0.02, SD = 0.008, t = -2.45, p < .05$) and girls ($\gamma = -0.04, SD = 0.008, t = -5.27, p < .001$), but was stronger for girls.

**Mothers and fathers: Risky behavior—Model E.** To better understand the unique role of mothers’ and fathers’ knowledge in predicting children well-being, we entered maternal and paternal knowledge indicators in the same model. As Table 4.3 depicts, higher levels of mothers’ and fathers’ perceptions of their knowledge and youths’ perceptions of mothers’ knowledge were
significantly related to less risky behavior.

We next added the interactions that were significant in the mother-only and father-only models. A significant interaction (see Figure 4.1) between youth age and youths’ perceptions of maternal knowledge indicated that when children saw their mothers as knowledgeable, youths’ risky behavior was similar for older and younger adolescents ($\gamma = -.005, SD = 0.004, t = -1.18, ns$), but when children reported that their mothers were less knowledgeable, older adolescents engaged in more risky behavior than did younger adolescents ($\gamma = -.02, SD = 0.004, t = -4.72, p < .001$). In addition, the interaction between fathers’ daily knowledge and youths’ perceptions of fathers’ knowledge (Figure 4.3) indicated that fathers’ daily knowledge was linked at a trend level to youths’ risky behavior when youths’ perceived their fathers as knowledgeable ($\gamma = .006, SD = 0.003, t = 1.88, p < .10$). When adolescents perceived their fathers as less knowledgeable, however, higher daily knowledge was linked to fewer risky behaviors ($\gamma = -.008, SD = 0.003 t = -2.44, p < .01$).

*Mothers and fathers: Depressive symptoms—Model F.* As depicted in Table 4.3, when children saw their mothers as more knowledgeable, they reported significantly fewer depressive symptoms. In addition, even with the other knowledge indicators in the model, fathers’ daily knowledge predicted unique variance in youths’ depressive symptoms, such that higher daily paternal knowledge was associated with fewer depressive symptoms. We also examined interactions between youths’ perceptions of mothers’ (Figure 4.2) and fathers’ (Figure 4.4) knowledge and youth gender. These interactions were not significant when both entered in the same model as they were competing for the same variance (Table 4.3). Because of this, we examined these interactions in separate models, and they remained significant (Mothers: $\gamma = .03, SD = 0.01, t = 2.03, p < .05$; Fathers: $\gamma = .02, SD = 0.01, t = 1.93, p < .05$). Youth who perceived
their mothers and fathers as more knowledgeable reported fewer depressive symptoms. This finding was significant for girls (Mothers: $\gamma = -0.04, SD = 0.01, t = -3.52, p < .001$; Fathers: $\gamma = -0.03, SD = 0.01, t = -2.60, p < .01$), but not for boys (Mothers: $\gamma = -0.02, SD = 0.01, t = -1.36, ns$; Fathers: $\gamma = -0.004, SD = 0.01, t = -0.47, ns$).

Discussion

These findings corroborate a growing body of research highlighting the associations between parental knowledge and adolescent functioning. That said, several new findings in this paper point to more complexity than previously thought. First, our analyses revealed that all three knowledge indicators were significantly linked to either risky behavior or depressive symptoms, indicating that each knowledge indicator is uniquely important as a measure of this construct. Second, both mothers’ and fathers’ knowledge contributed to adolescent well-being, which emphasizes the value of collecting separate knowledge measures for mothers and fathers. Finally, in some cases, the knowledge indicators operated in combination; specifically, the effect of fathers’ daily knowledge depended on youths’ perceptions of fathers’ knowledge. Taken together, these findings demonstrate the importance of taking a multi-method and multi-informant approach to studying parental knowledge. We elaborate on these key findings while outlining the strengths, limitations, and future directions of this work.

Risk Behavior vs. Depressive Symptoms

Analyses revealed that the three knowledge indicators were differentially related to youths’ risky behavior and depressive symptoms. In models that included both mothers and fathers, mothers’ and fathers’ perceptions of knowledge and youths’ perceptions of mothers’ knowledge were associated with risky behavior, whereas only youths’ perceptions of mothers’ knowledge and fathers’ daily knowledge were associated with depressive symptoms. Why were
the knowledge indicators differentially related to these two adolescent well-being indicators?

*Risky behavior.* The fact that mothers’ and fathers’ perceptions of knowledge were related to youths’ externalizing behaviors can be interpreted from both a youth and parent perspective. Focusing first on youth effects, youth who engaged in risk-taking behaviors and therefore had something to hide may not have shared their daily experiences with their parents. Alternatively, these findings may be partially explained by the quality of the parent-child relationship, which has been identified as perhaps the most important correlate of parental knowledge (Crouter & Head, 2002). Warm parent-child relationships may have facilitated an environment in which their children felt comfortable sharing information about their lives (Stattin & Kerr, 2000; Sullivan et al., 2004).

Moving to parent effects, youth who were acting out in obvious ways may have resulted in parents feeling uninformed, especially if they were clued in to some degree their child’s risky behaviors in a general way. Alternatively, Dishion and colleagues (1991) noted that parental knowledge exerted its impact on youths’ deviance through parents’ actions to buffer their children from deviant peer groups. Parents who perceived themselves as knowledgeable, and therefore may have had more parenting efficacy, may have taken active steps to guide their children to positive peer groups, thus reducing opportunities for delinquent behavior. It is important to note that this knowledge indicator measures parents’ *perceptions* of their knowledge. Our data indicate that parents of children engaging in risky behavior did not exhibit less daily knowledge; however, they reported that they *felt* less knowledgeable.

We also found that youth who perceived their mothers as more knowledgeable engaged in fewer risky behaviors, even when accounting for the variance associated with parents’ perceptions of knowledge. This finding emerged for older but not younger youth, aligning with
our hypothesis that parental knowledge would be a more important predictor of older youth well-being. In addition to the explanations already discussed, this finding may partly be explained by the increased variability in risky behaviors among older youth; there was likely more variance in risky behaviors in older than younger youth for youths’ perceptions of knowledge to predict.

Because the data were cross-sectional, however, we were not able to take a thorough developmental approach in these analyses. As our evidence suggests, the links between parental knowledge and youth well-being may vary across adolescence and early adulthood. Although we have begun to understand these links by examining youth age as a moderator between parental knowledge and youth well-being, a more beneficial approach is to examine how these processes unfold within individuals over time using longitudinal data of parental knowledge and youth adjustment. Furthermore, the majority of research has focused on parental knowledge and youth well-being in adolescence (Crouter & Head, 2002). This work should be extended earlier into childhood, as parental knowledge in childhood may be important in and of its own right as it sets the stage for these processes to occur in families with adolescents.

Depressive symptoms. In contrast, although parents’ perceptions of knowledge and youth’s depressive symptoms were significantly related in bivariate correlations, there was no significant association when the other knowledge indicators were included in the model. Depressed adolescents may not have acted out in worrisome ways that would prompt parents to report a lack of knowledge. Youth who saw their parents as more knowledgeable, however, reported fewer depressive symptoms. Youths’ perceptions of knowledge may be especially important for depressive symptoms in that depressed adolescents may not have openly shared with their parents, making youth feel that their parents did not know about their daily lives. It may also be that youth who did not perceive their parents as knowledgeable did not feel that their
parents were interested in their lives, as one way parental knowledge has been understood is in terms of parental interest in the child (Crouter et al., 1990; Sullivan et al., 2004). Although this finding was true of both boys and girls, it was stronger for girls, which may reflect more variance around depressive symptoms for girls in our sample.

Most interestingly, perhaps, is that even accounting for other measures of knowledge, the more fathers knew on a day to day basis, the fewer depressive symptoms their children reported. Previous research has shown that children benefit when their fathers are actively involved in their daily lives (Flouri & Buchanan, 2003). One way the daily knowledge measure has been conceptualized is in terms of involvement (Caldwell, Beutler, Ross, & Silver, 2006). Crouter and colleagues (1999) noted that being knowledgeable is seen as a mothers’ role, and that for the most part, mothers are good at it. Fathers’ knowledge, in contrast, tends to be more variable. Having an interested and involved father who is knowledgeable on a daily basis, however, appears to be especially beneficial in either preventing against youths’ internalizing behaviors or by perhaps helping youth cope with affect changes that occur in adolescence.

As can be seen in the above example, we cannot draw conclusions about direction of these effects. It may be that parental knowledge leads to youth well-being, or it may be that well-being underlies parental knowledge. Both processes, in fact, likely occur. Laird and his colleagues (2003) found that decreases in youths’ perceptions of parental knowledge were related to increases in youths’ deviance over the course of high school, but they also found that increases in youths’ deviance were related to decreases in parental knowledge. Future research should further this work by examining these reciprocal linkages for multiple measures of knowledge and well-being using longitudinal data.
Mothers vs. Fathers

As mentioned previously, both mothers’ and fathers’ knowledge were individually linked to youth well-being. Moreover, fathers’ perceptions of knowledge were related to youths’ risky behavior above and beyond mothers’ perceptions of knowledge, and fathers’ daily knowledge was related to youths’ depressive symptoms above and beyond youths’ perceptions of mothers’ knowledge.

Parental knowledge has been considered as protective for youth because of the way that knowledge prompts parents to act on their child’s behalf, either by actively sheltering children from risks or by helping to diffuse the negative impact of exposure to risks (Chilcoat & Anthony, 1996). Because the links between parental knowledge and youth well-being emerged for both mothers and fathers when included in the same model, our findings indicate that there is an added benefit for youth to have two knowledgeable parental figures rather than just one. Parents who work as a team in staying knowledgeable can share information with each other about the child (Crouter et al., 2005) and may, for example, help each other more effectively guide their children away from involvement with delinquent peers (Dishion et al., 1999) and respond more sensitively to their children’s depressive symptoms. A clear implication of these findings is the importance of examining parental knowledge separately for mothers and fathers. Focusing only on one parent or asking knowledge measures for parents as one unit does not capture the unique implication of mothers’ and fathers’ parental knowledge for youth well-being.

Future work should explore whether these additive protective effects of having a knowledgeable mother and father operate in the same way in different types of families. For example, single parents might actively coparent with a grandparent or other adult. Does this added benefit of having two knowledgeable parental figures emerge in these types of families?
Moreover, some racial and ethnic groups (e.g., African Americans and Native Americans) have a tendency to be more heavily embedded in kin networks (García Coll, Meyer, & Brillon, 1995). In these families, knowledge about youths’ experiences may be spread among multiple family members instead of just mothers and fathers. Future research should examine multiple measures of parental knowledge in different types of families to further understand these benefits of having two or more knowledgeable parental figures.

The Interdependence of the Knowledge Measures

One of the most interesting findings in this paper is the interconnectedness of fathers’ daily knowledge and youths’ perceptions of their fathers’ knowledge. If youth rated their fathers as more knowledgeable, fathers’ daily knowledge did not predict risky behavior. When youth perceived their fathers as less knowledgeable, however, youth engaged in less risky behavior when their fathers actually knew more. In other words, youth were most at risk for engaging in risky behavior when they thought their fathers are not knowledgeable, but only when this was truly the case (i.e., low daily knowledge). Even though physically present, it may be that the fathers who had low daily knowledge and were rated by youth as not being knowledge were remarkably uninvolved and uninterested in their youths’ daily lives, as these youth were clearly not receiving the benefits associated with having a father actively involved in daily parenting.

Conclusion

This work underscores the importance of careful consideration of measurement approaches for researchers who study parental knowledge, as our evidence suggests that different indicators of parental knowledge provide unique information about this construct. To fully understand the link between parental knowledge and youth well-being and ultimately develop interventions that promote parental knowledge, we need to more thoroughly understand how
parental knowledge is associated to youth well-being; these findings suggest that using only one
measure of parental knowledge is limited.

The knowledge indicators studied in this paper are by no means exhaustive. Other studies
have examined teachers’ perceptions of parental knowledge (Kilgore et al., 2000; Fisher et al.,
2003), retrospective accounts of parental knowledge (Veal & Ross, 2006), interviewer
impressions of parental knowledge (Fisher et al., 2003), and parents’ logs of their monitoring
activities (Ladd & Golter, 1988). Each measurement approach and reporter of parental
knowledge contributes uniquely to our understanding of the construct. Because of limited time
and resources, however, it may not be feasible to include multiple methods and reporters of
parental knowledge in one study. Researchers need to be strategic in selecting the parental
knowledge indicators that best align with their research question.

This work breaks new ground by illuminating a more complex picture linking between
parental knowledge and youth well-being. This study examined parental knowledge from
multiple family members’ perspectives which highlighted differential associations of mothers’
and fathers’ knowledge for youth well-being. Additionally, we studied two adolescent well-being
indicators: internalizing and externalizing behaviors; the lion’s share of previous research has
focused almost exclusively on externalizing behaviors. A final strength of this work is the multi-
method approach measurement approach used to assess parental knowledge. Taken together,
these findings further clarify the uniqueness and overlap of these three parental knowledge
measures and emphasize the importance of careful consideration of measurement when
examining this key construct for adolescent well-being.
References


Horwitz, A. V., & White, H. R. (1987). Gender role orientations and styles of pathology among


Table 4.1

*Correlations between Demographic Characteristics and Mothers’ (N = 175) and Fathers’ (N = 163) Knowledge Measures*

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<tr>
<td>2. Youth age</td>
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<td>3. Mother educ.</td>
<td>.01</td>
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<td>4. Father educ.</td>
<td>-.01</td>
<td>-.01</td>
<td>.45***</td>
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<td>5. Risky behavior</td>
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<td>.29***</td>
<td>-.07</td>
<td>-.26***</td>
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<td>6. Depressive symptoms</td>
<td>-.16**</td>
<td>.11†</td>
<td>-.08</td>
<td>-.14*</td>
<td>.40***</td>
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<td>7. M daily knowledge</td>
<td>.02</td>
<td>-.11*</td>
<td>.05</td>
<td>.03</td>
<td>-.13*</td>
<td>-.12*</td>
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<td>8. F daily knowledge</td>
<td>.10</td>
<td>-.09†</td>
<td>-.02</td>
<td>.04</td>
<td>-.20**</td>
<td>-.22**</td>
<td>.39***</td>
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<td>9. M perceptions of knowledge</td>
<td>-.09</td>
<td>-.27***</td>
<td>.01</td>
<td>.18*</td>
<td>-.43***</td>
<td>-.17**</td>
<td>.16**</td>
<td>.13*</td>
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<td>-.33***</td>
<td>.17*</td>
<td>.31***</td>
<td>-.41***</td>
<td>-.18**</td>
<td>.13*</td>
<td>.25***</td>
<td>.43***</td>
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<td>11. Youths’ perceptions M knowledge</td>
<td>-.17**</td>
<td>-.26***</td>
<td>.13*</td>
<td>.15**</td>
<td>-.52***</td>
<td>-.37***</td>
<td>.12*</td>
<td>.06</td>
<td>.44***</td>
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<td>12. Youths’ perceptions F knowledge</td>
<td>-.10†</td>
<td>-.24***</td>
<td>.07</td>
<td>.18**</td>
<td>-.43***</td>
<td>-.34***</td>
<td>.08</td>
<td>.15*</td>
<td>.32***</td>
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</table>

*Note.* M = Mothers; F = Fathers.

*Youth gender: 0 = female; 1 = male.*

†p < .10. *p < .05. **p < .01. ***p < .001.
Table 4.2

*Multilevel Model Results Predicting Youths’ Risky behavior and Depressive Symptoms with Parental Knowledge (N = 175)*

<table>
<thead>
<tr>
<th>Predictors</th>
<th><strong>Model A</strong>: Mothers’ Knowledge Predicting Risky Behavior</th>
<th><strong>Model B</strong>: Mothers’ Knowledge Predicting Depressive Symptoms</th>
<th><strong>Model C</strong>: Fathers’ Knowledge Predicting Risky Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gamma</td>
<td>SE</td>
<td>T-ratio</td>
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<tr>
<td><strong>Level 1: Child-level</strong></td>
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</tr>
<tr>
<td>Intercept</td>
<td>3.20</td>
<td>.02</td>
<td>.05***</td>
</tr>
<tr>
<td>Youth gender*</td>
<td>.05</td>
<td>.02</td>
<td>2.39*</td>
</tr>
<tr>
<td>Youth age</td>
<td>.03</td>
<td>.06</td>
<td>4.29***</td>
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<td>Parents’ daily knowledge</td>
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<td>.001</td>
<td>-.29</td>
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<tr>
<td>Parents’ perceptions of knowledge</td>
<td>-.01</td>
<td>.003</td>
<td>-4.33***</td>
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<tr>
<td>Youths’ perceptions of parental knowledge</td>
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<td>.002</td>
<td>-7.49***</td>
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<td><strong>Level 2: Family-level</strong></td>
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<tr>
<td>Parent educ.</td>
<td>-.004</td>
<td>.01</td>
<td>-.77</td>
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<tr>
<td><strong>Interactions</strong></td>
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<tr>
<td>Youths’ perceptions × Youth age</td>
<td>-.002</td>
<td>.001</td>
<td>-2.33*</td>
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<tr>
<td>Parents’ perceptions × Youths’ perceptions</td>
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<td>.0001</td>
<td>1.20</td>
</tr>
<tr>
<td>Youths’ perceptions × Youth gender</td>
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</tr>
</tbody>
</table>

*Youth gender: 0 = female, 1 = male.*

*p < .05. **p < .01. ***p < .001.
Table 4.3

**Multilevel Model Results Predicting Youths' Risky behavior and Depressive Symptoms with Parental Knowledge (N = 161)**

<table>
<thead>
<tr>
<th>Predictors</th>
<th><strong>Model E: Risky Behavior</strong></th>
<th></th>
<th><strong>Model F: Depressive Symptoms</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gamma</td>
<td>SE</td>
<td>T-ratio</td>
<td>Gamma</td>
</tr>
<tr>
<td><strong>Level 1: Child-level</strong></td>
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<td></td>
<td></td>
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<tr>
<td>Intercept</td>
<td>3.25</td>
<td>.02</td>
<td>195.70***</td>
<td>1.89</td>
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<tr>
<td>Youth gender&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.06</td>
<td>.02</td>
<td>2.95**</td>
<td>-.26</td>
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<tr>
<td>Youth age</td>
<td>.02</td>
<td>.01</td>
<td>2.53*</td>
<td>.02</td>
</tr>
<tr>
<td>M daily knowledge</td>
<td>.0001</td>
<td>.001</td>
<td>.05</td>
<td>-.001</td>
</tr>
<tr>
<td>F daily knowledge</td>
<td>-.001</td>
<td>.001</td>
<td>-1.38</td>
<td>-.01</td>
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<td>M perceptions of knowledge</td>
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<td>.003</td>
<td>-2.24*</td>
<td>.001</td>
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<tr>
<td>F perceptions of knowledge</td>
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<td>.003</td>
<td>-2.62**</td>
<td>-.001</td>
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<tr>
<td>Youths’ perceptions of M knowledge</td>
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<td>.003</td>
<td>-4.72***</td>
<td>-.04</td>
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<tr>
<td>Youths’ perceptions of F knowledge</td>
<td>-.001</td>
<td>.002</td>
<td>-.45</td>
<td>-.02</td>
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<tr>
<td><strong>Level 2: Family-level</strong></td>
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<tr>
<td>Mother educ.</td>
<td>.01</td>
<td>.01</td>
<td>1.20</td>
<td>.01</td>
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<td>Father educ.</td>
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<td>.01</td>
<td>-2.70**</td>
<td>-.03</td>
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<tr>
<td><strong>Interactions</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Youths’ perceptions × Youth age</td>
<td>-.002</td>
<td>.001</td>
<td>-1.97*</td>
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<tr>
<td>Parents’ perceptions × Youths’ perceptions</td>
<td>.0002</td>
<td>.0001</td>
<td>2.76**</td>
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<tr>
<td>Youths’ perceptions × Youth gender</td>
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<td>--</td>
<td>ns</td>
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</tbody>
</table>

*Note.* M = Mothers; F = Fathers.

<sup>a</sup>Youth gender: 0 = female, 1 = male.

†p < .10. *p < .05. **p < .01. ***p < .001.
Figure 4.1  Youths’ Risky Behavior as a Function of Youths’ Perceptions of Mothers’ Knowledge and Youth Age

Figure 4.2  Youths’ Depressive Symptoms as a Function of Youth Age and Youths’ Perceptions of Mothers’ Knowledge

Figure 4.3  Youths’ Risky Behavior as a Function of Fathers’ Daily Knowledge and Youths’ Perceptions of Fathers’ Knowledge

Figure 4.4  Youths’ Depressive Symptoms as a Function of Youth Gender and Youths’ Perceptions of Fathers’ Knowledge
Figure 4.1

Youths' Risky Behavior

Youth's Age

Younger  Older

Low: Youths' perceptions of mothers' knowledge

High: Youths' perceptions of mothers' knowledge
Figure 4.2

Youths' Depressive Symptoms vs. Youths' Perceptions of Mothers' Knowledge

- Girls
- Boys
Figure 4.3

- Low: Youths' perceptions of fathers' knowledge
- High: Youths' perceptions of fathers' knowledge

Youths' Risky Behavior

Fathers' Daily Knowledge

20 30 40 50 60
Figure 4.4

Youths' Depressive Symptoms vs. Youths' Perceptions of Fathers' Knowledge

Girls

Boys
Vitæ
Megan E. Baril

EDUCATION
Ph.D. Human Development and Family Studies 2008
The Pennsylvania State University
Thesis Title: Psychosocial Adjustment in Adolescence: The Importance of the Family Ecology

M.S. Human Development and Family Studies 2005
The Pennsylvania State University
Thesis Title: A Closer Look at Marital Quality, Coparenting and Adolescent Well-Being

B.A. Bachelor of Arts in Psychology; Minor in German 2002
Wake Forest University

RESEARCH INTERESTS
• Associations between parental knowledge/monitoring, parent-adolescent relationship quality, and both positive and negative well-being indicators in adolescence
• The development of parental knowledge over childhood and adolescence
• Associations between religiosity and family processes, parenting, and parent-child relationship quality

SELECTED PUBLICATIONS

SELECTED PRESENTATIONS

RESEARCH EXPERIENCE
2003 - 2008 Penn State Family Relationships Project; NICHD Grant
Ann C. Crouter and Susan M. McHale (PIs) The Pennsylvania State University

2005 Family Foundations: A Strong Start; NICHD Grant
Mark Feinberg (PI), The Pennsylvania State University

2003 Hispanic Achievers; Dept. of Education Grant
Christy Miller Buchanan (PI), Wake Forest University

2000 – 2002 Family Interactions and Parenting Project; W.T. Foundation Grant
Christy Miller Buchanan (PI), Wake Forest University

TEACHING ACTIVITIES
2006 Instructor for Empirical Inquiry
2007 World Campus Instructor for Introduction to Human Development and Family Studies
2008 Instructor for Introduction to Human Development and Family Studies