

The Role of Mentor Type and Timing in Predicting Educational Attainment

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Abstract Having an adult mentor during adolescence has been found to predict academic success. Building on previous work, the present study examined interactions between the type of mentor (i.e., kin, teacher, friend, or community), the time that mentor became important (i.e., before, during, or after high school), and the ethnicity of the protégé in predicting educational attainment in young adulthood. Analyses used Waves III and IV of the National Longitudinal Study of Adolescent Health ($N = 2,409$). Participants' ages ranged from 18 to 27 ($M = 21.75$, $SD = 1.79$). The sample was 56.7 % female and nationally representative of ethnic diversity. Analyses showed that having a teacher-mentor was more predictive of educational attainment than having other types of mentors and that overall, having a mentor after high school predicts the most educational attainment. Kin- and community-mentors appeared to be more important to educational attainment during and before high school, respectively. Findings were consistent across ethnic groups. Overall, results highlight the value of teacher-mentors throughout childhood, adolescence, and early adulthood and our study further suggests that different types of mentors may be particularly useful at specific points in development.

Keywords Adolescence · Mentoring · Educational attainment · Add Health · Teacher · Kin-mentor · Ethnicity

Introduction: The Importance of Informal Mentors

As adolescents gain autonomy from parents and increasingly spend time away from family (Larson et al. 1996), supportive adults are crucially important for helping them to navigate their social worlds. Even one good relationship with a competent adult is correlated with better youth adjustment (Masten et al. 2009). Some researchers suggest that, for adolescents, mentors fill a role somewhere between parent and peer (Beam et al. 2002a). Therefore, it is no surprise that young people who have significant non-parent adult mentors in their lives demonstrate a variety of positive outcomes in adolescence and beyond including better mental health, academic success, and reduced problem behaviors (cf. DuBois et al. 2002).

While the majority of research over the last three decades has focused on formal mentoring designed to encourage these positive adult relationships (e.g., Rhodes et al. 2000), informal mentoring is more common than formal mentoring for young people. For example, one study of youth mentoring by the Commonwealth Fund found that 83 % of youth with mentors had informal mentors, whereas only 17 % had formal ones (McLearn et al. 1998), and a recent review reported that between 53 and 83 % of adolescents have an informal mentor (Spencer 2007). Given the prevalence of informal mentoring, there is value in learning more about the positive informal relationships between young people and non-parent adults.

There are many different definitions of informal mentoring, but according to DuBois and Karcher (2005), most share three core commonalities. First, a mentor has wisdom and experience to share with a protégé. Second, a mentor encourages the development of a protégé through guidance or instruction. And finally, there is a trusting relationship between mentor and protégé. This very broad definition of

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informal mentoring speaks to the large amount of variation in naturally occurring mentoring relationships. Mentors can serve a variety of roles in the lives of protégés, and may serve different roles depending on the point in development during which the relationship is built. For example, relatives serve as mentors more often for younger adolescents, whereas teachers are more likely to serve as mentors during the high school years (Gastic and Johnson 2009). Using retrospective data about mentors, the present study considers how mentor type and timing interact to predict educational attainment in young adulthood.

Mentoring and Academic Achievement

It has been well-demonstrated that, among high school students, mentoring positively predicts academic success (Linnehan 2001; Rhodes et al. 2000; Sánchez et al. 2008; Wyatt 2009) and college attendance (DuBois and Silverthorn 2005b). Mentoring relationships predict academic orientation and success among elementary and middle school students as well (Herrera et al. 2007; Kuperminc et al. 2011). Additionally, academic achievement indicators often are considered as outcome variables for formal mentoring programs. One meta-analysis of 55 program evaluations reported that, of 43 programs examining academic or educational outcomes, the average fixed-effect size for these outcomes was small ($d = .13$; DuBois et al. 2002). While mentoring was one of the least robust effects of the programs, it nonetheless demonstrates the potential value of mentoring in building protégés' academic skills and efficacy.

The positive impact of mentoring on academic outcomes can be explained by a variety of mechanisms. According to Rhodes' (2005) model of youth mentoring, mentors can contribute to youth development in three domains: socio-emotional development, identity, and cognitive skills. Thus, academic effects of mentoring may be garnered by helping students to develop an identity as a successful student and by building a value for education into the student's sense of self (Erickson et al. 2009). Based on the theory-driven functions of college students' mentors (Nora and Crisp 2007), mentors benefit students by providing academic support and tutoring, as well as providing a positive role model to demonstrate the value of education (Allen et al. 2006; Beam et al. 2002b; Sánchez et al. 2008). Finally, from a social support perspective (Sterrett et al. 2011), mentors can benefit protégés' educational outcomes by providing social capital for academic success (Chang et al. 2010). For example, students who have mentors with high educational attainment, low misconduct, and low depression have better academic outcomes and report fewer problem behaviors than protégés of mentors with less social capital (Chang et al. 2010). Thus, the major

theoretical perspectives on mentoring point to multiple ways through which mentors can support academic development and educational attainment of protégés.

Types of Natural Mentors That Predict Academic Outcomes

Informal mentoring relationships can develop in any of youth's everyday contexts, and usually arise from already existing adult-adolescent relationships (Beam et al. 2002a, b). Because children and adolescents spend a good deal of their time at school and in sports and extracurricular activities, many mentoring relationships are formed between adolescents and teachers, coaches, and group leaders. However, family and other community members (e.g., friend's parents, therapists) also may take on mentoring roles for some adolescents (DuBois and Silverthorn 2005b). The majority of studies that have considered mentor type have focused primarily on the potential value of kin-mentors or teacher-mentors in comparison to other types of naturally occurring relationships. Other important adults such as group leaders, religious figures, and the friends of parents receive far less attention. The present study looks at these less well-studied types of informal mentoring relationships (i.e., community mentors, friend mentors) as they compare to teacher- and kin-mentors.

Among adolescents, having a school-based or teacher-mentor is predictive of better school attachment, reduced risk behavior, and academic achievement (Black et al. 2010; Erickson et al. 2009; Gastic and Johnson 2009). Using longitudinal data from the National Longitudinal Study of Adolescent Health (Add Health), Erickson et al. (2009) demonstrated that even after controlling for a wide range of factors including 9th grade GPA and other social resources, students who reported having a school-based mentor during adolescence had a better GPA in 12th grade and completed more years of education overall than adolescents with mentors who were not school-based. Adolescents with few personal and social resources in adolescence seemed to benefit especially from having a teacher-mentor, showing higher GPA and greater educational attainment than high-risk youth with other types of mentors. Similarly, Dubois and Silverthorn (2005a) found that students with "professional mentors," who were primarily teachers and guidance counselors, were more likely to attend college than those with other types of mentors.

Teacher-mentors, who are certain to value education, have a bachelor's degree or higher, and interact with protégés in an academic context, should be most capable of providing the functions of mentoring suggested by Rhodes' (2005) theoretical framework—serving as an academic role model, nurturing an academic identity, and cultivating the cognitive skills associated with academic success.

Similarly, from the social capital perspective described by Chang et al. (2010), teacher-mentors who are educated and connected to the academic world may be able to provide skill-building and practical encouragement for educational outcomes that a mentor with less educational attainment would be less capable of providing.

One significant drawback to previous research is the inclusion of mentors who became important after high school in analyses to predict educational attainment (e.g., Dubois and Silverthorn 2005a; Erickson et al. 2009). Students who attend college and therefore have teachers after high school have an opportunity to develop a mentoring relationship with a teacher that youth without college experience do not have. As any youth who reports a teacher-mentor after high school is likely to have some post-secondary educational experience, the role of post-high school teacher-mentors in predicting educational attainment is heavily confounded by selection effects, i.e., college attendance. It is necessary to parse these post-high school relationships from those before and during high school to accurately understand the effect of relationships with teacher-mentors on educational attainment in young adulthood.

Two studies that looked exclusively at mentors from the high school years have demonstrated that non-kin-mentors consistently predict higher expected educational attainment than kin-mentors. In a longitudinal study spanning high school graduation, Chang et al. (2010) demonstrated that in the year following high school graduation, students with non-kin-mentors reported higher expected educational attainment than those with kin-mentors. Similarly, in a cross-sectional study of Latino high school students, those with non-familial-mentors had higher expected educational outcomes than those with kin-mentors (Sánchez et al. 2008). These results are somewhat surprising given that warmth and acceptance in a mentoring relationship predicts positive psychosocial outcomes and reduced problem behavior (Greenberger et al. 1998). However, teacher-mentors have experience in higher education as well as in navigating the educational system, and interact with young people consistently in an academic setting, they may be more able to pass a unique set of academic skills and resources on to their protégés than other types of mentors. Because teacher-mentors were not separated from kin-mentors in these previous analyses, we cannot tell whether results demonstrate that teacher-mentors are beneficial during the high school years, or only that kin-mentors are less beneficial during these years. Thus, more research is needed to understand the roles of teacher-mentors, community-mentors, and friend-mentors in relation to educational attainment, and at what time they become important.

Timing of Informal Mentoring Relationships

Different types of mentoring relationships may become important at different points in development (Gastic and Johnson 2009). Because kin-mentors are relatives who are often already in the family when the protégé is born, important relationships may be established very early in life. Younger adolescents may rely on kin-mentors more than older adolescents, as relationships with mentors outside of the family often develop during mid-to-late adolescence (Benson 1993). Indeed, mentoring research shows that older adolescents report more non-kin-mentors than younger adolescents (Beam et al. 2002a, b). Similarly, mentoring relationships with teachers most commonly develop during high school (Gastic and Johnson 2009). This shift in the type of mentoring relationships reported during adolescence is potentially due to increases in autonomy from family across adolescence, especially given that autonomy rises dramatically in mid-to-late adolescence (Wray-Lake et al. 2010).

Not only are the types of mentoring relationships different across adolescence but so are the nature of these relationships (Liang et al. 2008). Younger adolescents are more likely to idealize their mentors and see them as infallible individuals who should live up to this high standard, whereas older adolescents seek more opportunities for autonomous decision making and learning (Liang et al. 2008). Additionally, older adolescents express that they strive to learn from the experiences of their mentors and enhance particular skills that cannot be learned from parents (Liang et al. 2002), perhaps relying more heavily on the social capital of their mentors. Interestingly, one study of formal mentoring relationships throughout childhood and adolescence found that high school girls received more social benefits from having a mentor than younger girls, whereas elementary school aged boys benefited more than high school boys on similar social outcomes (Karcher 2008). However, with the exception of cross-sectional studies of formal mentoring programs (e.g., Karcher 2008), no research to date has focused on the timing of the mentoring relationship in predicting mentoring outcomes. Mentoring relationships are likely to change and grow as the protégé develops, serving different functions in childhood, adolescence, and early adulthood. Therefore, it is critical to look not only at the types of mentors that may impact young people, but also at the developmental stage of the protégé during the mentoring relationship in order to better understand the benefits of having a mentor.

Due to these differences in the nature of mentoring relationships across adolescence, teacher-mentors may be most beneficial to high school and college students, whereas kin-mentors may be most beneficial when they become important before high school. Because adolescents

are more likely to seek information and assistance from their mentors in overcoming obstacles to college enrollment (Liang et al. 2002), teacher-mentors who have this information and work with protégés in an academic setting may be particularly important during high school and college. Yet, kin-mentors may be just as effective as teacher-mentors in building an early foundation for future educational attainment. Before high school, youth mentoring relationships are thought to focus more on building socio-emotional capital and identity (Rhodes 2005), rather than responding to specific needs for skill-building (Liang et al. 2002). Although kin-mentors may or may not have well-developed academic skills or a clear opportunity to transmit them, they might be very effective in providing the warm, supportive, mentoring relationships that have been long demonstrated to predict positive outcomes in mentoring relationships (Greenberger et al. 1998; Haddad et al. 2011), thus helping to build an early foundation of psychosocial capital on which to build later academic successes.

Ethnic Differences in Mentoring Relationships

Despite the fact that a large proportion of U.S. youth plan to obtain a college degree (76.1 % in 2010; Bachman et al. 2011), certain ethnic minority groups continue to have low graduation rates. Hispanic youth have much lower graduation rates than any other ethnic group, and this gap in educational attainment has grown in recent years (Excelencia in Education 2012). Given that mentoring relationships have been linked to higher educational attainment (Herrera et al. 2007; Rhodes et al. 2000), it is important to further understand mentoring processes for ethnic minority groups. For African Americans, formal mentoring programs have been shown to be effective in contributing to educational orientation and outcomes among children and adolescents (Linnehan 2001; Kuperminc et al. 2011; Wyatt 2009), and natural mentoring relationships have been shown to be useful in predicting a number of positive health and psychosocial outcomes among African American adolescents and young adults (Hurd and Zimmerman 2010; Kogan et al. 2011; Zimmerman et al. 2002).

Mentoring studies among youth of diverse ethnic backgrounds suggest that the quality of mentor-protégé interactions across ethnic groups seem to be quite similar (Haddad et al. 2011), yet the type of mentor may vary. Among Latino adolescents, it seems far more common to have a naturally occurring kin-mentor than a non-kin-mentor (Sánchez et al. 2008; Sánchez and Reyes 1999), whereas in multiethnic samples this is not typical (e.g., Dubois and Silverthorn 2005a). Among African American adolescents, about half identify a kin-mentor, and very few identified teacher-mentors (Hurd and Zimmerman 2010).

However, one study that compared natural mentoring relationships across ethnic groups found no differences in mentor type; roughly half of all young adults nominated a kin-mentor (Haddad et al. 2011). In addition, this study found that mentors of Latino students completed fewer years of education than mentors of White or Asian students (Haddad et al. 2011). However, protégés' ethnicities do not predict the warmth, depressive symptoms, or problem behavior of their mentors, nor do the effects of these characteristics impact student outcomes differentially by ethnicity (Haddad et al. 2011).

While some past research suggests that Latino and African American youth are more likely to report having a kin-mentor, and that kin-mentors are less likely to affect educational attainment positively, further research is needed to isolate the timing in which the mentors became important in the lives of students. For instance, in one study, Latino boys provided with school-based mentors in elementary school reported better social skills and were more hopeful than before the program, but high-school boys in the same program showed detrimental impacts (Karcher 2008). This discrepancy suggests that timing differences may be essential in predicting mentoring outcomes. Given the high value placed on the role of familial support in the Hispanic (Sabogal et al. 1987) and African American communities (Nobles et al. 1987), it is reasonable to believe that kin-mentoring relationships may provide additional benefits to Hispanic and African American protégés that are not detected in multi-ethnic samples. Thus, the present study conducts an exploratory analysis of the three way interaction between mentor type, the time the mentor became important, and ethnicity.

The Current Study

Building on mentoring theory and previous research, the current study compared the educational attainment of young adults who retrospectively reported having kin-mentors, teacher-mentors, community-mentors, or friend/spouse-mentors who became important before, during, and after high school. We considered the interaction between mentor type and timing in predicting educational attainment in young adulthood after controlling for 12th grade GPA. We examined four specific hypotheses in regard to this relationship. In line with past research findings (Dubois and Silverthorn 2005a; Erickson et al. 2009), we hypothesized that young adults who reported having a teacher-mentor, overall, would report higher educational attainment than their counterparts with other types of mentors (Hypothesis 1). Given that a mentor's social capital can be transmitted to a protégé through a mentoring relationship and in turn predict the extent to which a protégé benefits

from the relationship (Chang et al. 2010), as well as past findings that adolescents (Liang et al. 2002) and college students (Nora and Crisp 2007) are likely to look to their mentors as exemplars and to build specific skills, we hypothesized that mentors who became important during or after high school would generally predict more educational attainment than mentors who became important before high school (Hypothesis 2). Because teacher-mentors are likely to have more educational expertise and can provide more support for educational planning and attainment when students need these resources most (i.e., during and after high school), we hypothesized that teacher-mentors, who are likely to have higher than average educational attainment, would predict the most positive educational outcomes when they became important during or after high school (Hypothesis 3). While not all kin-mentors have the skills or opportunity to provide the types of support that high school or college-aged protégés seek, they are likely well equipped to provide a warm, caring mentoring relationship to serve as a foundation for a young protégés future academic success. Therefore, we hypothesized that compared to kin-mentors who became important during or after high school, kin-mentors who became important before high school would predict higher levels of educational attainment (Hypothesis 4). We conducted exploratory analyses for the role of community- and friend-mentors and the timing in which they become important for educational attainment, given no a priori hypotheses. In addition, we conducted an exploratory analysis of the three-way interaction of these mentoring variables with ethnicity.

Method

The present study utilized data from the National Longitudinal Study of Adolescent Health (Add Health). This nationally representative study of 7th–12th graders in the United States included in-home interviews with students and their parents, administered to participants using a computer-assisted personal-interview. Additional information was collected from schools about school characteristics and student achievement. The current study used publically-available in-home survey data from Waves III and IV (collected in 2001–2002 and 2007–2009, respectively), accessed through The Institute for Social, Cultural, and Policy Research (ISCP; Harris and Udry 1994–2008).

Add Health used a multi-stage, stratified, school-based cluster sampling method. The primary sampling frame was schools that included 11th grade and enrolled more than 30 students. The sample of 80 high schools was stratified by school type, size, percent white, urbanization and region of

the country. Fifty-two middle schools serving as feeder schools to the selected high schools were also included. Approximately 200 students from each school were randomly selected to participate, but researchers oversampled for some minority racial/ethnic groups, students with disabilities, and twins. The Wave III public use data contains 4,882 respondents selected randomly from the restricted use sample ($N = 15,172$). The Wave IV public use dataset contains data for 5,114 respondents, tracking the same cohort of publically available respondents, from the restricted use sample ($N = 15,701$).

The current study limited the sample to participants who reported ever having a mentor in Wave III data collection and who had complete data for outcome variables measured in Wave VI ($N = 2,409$). At Wave III, respondents' ages ranged from 18 to 27 years old ($M = 21.75$, $SD = 1.79$), and Wave IV took place approximately 6 years later. The current sample was comprised of 1,365 (56.7 %) females and 1,044 (43.3 %) males. Race/ethnicity was grouped into four categories: White ($N = 1,545$, 64.1 %), Hispanic ($N = 147$, 6.1 %), African-American ($N = 504$, 20.9 %), and Other (including Asian-American, Native-American, multiethnic and other race/ethnic groups; $N = 213$, 8.9 %). Analyses of attrition from Wave 1 to Wave III show that, generally, attrition had little impact on sample estimates (Chantala et al. 2004). The sample used for the current study differed from the nationally representative sample in terms of gender and ethnicity, but not on outcome values. Included participants were more likely than the overall sample to be female $\chi^2(1, N = 4,882) = 21.98, p < .001$, and more likely to belong to a minority ethnic group, $\chi^2(3, N = 4,882) = 19.52, p < .001$. However, they did not significantly differ from the national sample on 12th grade GPA, $t(3,476) = -.14, p = .89$ or educational attainment, $t(3,476) = -1.27, p = .21$.

Measures

Educational Attainment

At Wave IV, educational attainment was assessed with the question "What is the highest level of education that you have achieved to date?" Response categories were recoded to reflect: 1 = *finish high school or GED*, 2 = *some vocational school*, 3 = *graduate vocational school*, 4 = *some college/Associate's Degree*, 5 = *Bachelor's Degree*, 6 = *some graduate school*, 7 = *Master's Degree*, 8 = *some grad school beyond a Master's degree or some professional school*, 9 = *doctoral or professional degree*. The mode reported educational attainment was *Some college/Associate's Degree*.

Mentoring Relationships

Respondents were identified as having a mentor by their yes/no responses to the Wave III item: “Other than your parents or step-parents, has an adult made an important positive difference in your life at any time since you were 14 years old?” A closed-ended item asked respondents to identify their mentors’ relationship to them (e.g., teacher, aunt) from a list of 20 possible relations. Respondents with multiple mentors were asked to respond regarding their “most influential” mentor. Mentor types were grouped into four categories: relative (brother, sister, grandparent, aunt, uncle), teacher (including coach or athletic director and guidance counselor), friend (or spouse/partner), and community member (religious leader, coworker, neighbor, friend’s parents, doctor, therapist, or social worker, other). Mentor timing was measured with the open-ended question, “How old were you when {HE/SHE} first became important in your life?” For this analysis, responses were categorized into three age groups: before high school (0–13 years old), during high school (14–18 years old) and after high school (19 years and older). Categorical variables for both mentor type and timing were recoded into dummy variables to be used in analyses. The reference group for mentor type was teacher-mentor, and the reference group for mentor timing was before high school.

Demographics

Covariates included gender (*male* = 0, *female* = 1), age, and race/ethnicity (dummy coded into four categories with White as the reference group to Hispanic, African American, and Other), and 12th grade GPA. At Wave III, respondents signed a high school transcript release to allow access to official transcripts from the last high school they attended. For this study, 12th grade GPA was the recorded overall grade point average for all courses from the fourth year of high school. Among respondents with mentors, 723 were excluded because they did not release their GPA to the researchers, and 349 were excluded because they did not take graded courses during their fourth year of high school.

Results

Analytic Plan

First, a Chi-squared test of independence was used to assess whether some types of mentors are more important in the lives of protégés at different ages than others. A second Chi-Squared test of independence considered the differences between ethnic groups in terms of the types of

mentors nominated. Analyses predicting educational attainment utilized multilevel modeling with SAS PROC MIXED in order to account for the nested nature of the data, with individuals nested within schools. We were not interested in modeling school-level effects. Rather, failure to account for dependence among observations due to school could inflate significance tests in linear regression models (Snijders and Bosker 1999). Multilevel models examined the role of mentor type and mentor timing as well as the interaction of these factors, in predicting educational attainment. Three-way interactions between mentor type, mentor timing, and ethnicity were tested only for significant type by timing two-way interactions. These models were tested in a four-step sequence to assess the additive value of (1) demographic control variables, (2) mentor type and timing main effects, (3) the mentor type by timing interactions for each mentor type, and (4) the three-way interactions with mentor type, time, and ethnicity. For these models, we calculated R^2 values in accordance with Raudenbush and Bryk (2002) such that R^2 is the proportion of reduced prediction error from level 1 and level 2 due to the inclusion of predictor variables in the model.

Characterizing Mentoring Relationships

Of the 2,409 participants, 25.9 % reported that their most influential mentor was a teacher, 33.3 % reported a kin-mentor, 19.2 % reported a friend/spouse-mentor, and 21.6 % reported having a community-mentor. The largest percentage of reported mentors became important during the high school years (47.4 %), whereas 34.1 % became important before high school and 18.5 % became important after high school (see Table 1). A Chi-squared test of independence suggested that different types of mentors become important at different times, $\chi^2(6, N = 2,409) = 820.12, p < .001$. As expected, kin-mentors were more likely than other types of mentors to become important before high school, making up 67.9 % of all mentors who became important before high school. In line with past research, among high school students, teacher-mentors were the most common type of mentoring relationship, making up 40.9 % of the relationships established during high school. Community-mentors were the most common type of mentoring relationship to develop after high school, making up 38.9 % of post-high school mentors (see Table 1).

A separate Chi-squared test of independence suggested that members of different ethnic groups develop different types of mentoring relationships, $\chi^2(9, N = 2,409) = 32.64, p < .001$. Kin-mentors were the most common type of mentor for Hispanic and African-American students, making up 36.1 and 42.5 %, respectively, of all mentoring relationships formed by these students (see Table 2). Among White

Table 1 Frequency of mentor type and mentor time interactions

Type of mentor	Time mentor became important			Total
	Before HS	During HS	After HS	
Kin	558 23.1 %	208 8.6 %	35 1.5 %	801 33.2 %
Community	104 4.3 %	244 10.1 %	173 7.2 %	521 21.6 %
Friend/spouse	100 4.2 %	223 9.3 %	140 5.8 %	463 19.2 %
Teacher	60 2.5 %	467 19.4 %	97 4.0 %	624 25.9 %
Total	822 34.1 %	1,142 47.4 %	445 18.5 %	2,409 100.0 %

HS high school

students, teacher-mentors were the most common type, making up 27.8 % of mentoring relationships.

Mentor Type and Timing as Predictors

In the empty model for educational attainment, the intra-class correlation (ICC) was .78, indicating that 22 % of the variance in educational attainment was due to school-level variation. All predictor variables were entered at level 1 of the model (i.e., the person-level) controlling for school-level variance.

In the first model, control variables of age, gender, dummy-coded ethnicity (with White as the reference category), and 12th grade GPA were entered. Pseudo R^2 for this model was .22, suggesting that the model accounted for approximately 22 % of the variance in educational attainment. Students with higher 12th grade GPA had greater educational attainment ($\beta = 1.07, p < .001$). Females had higher attainment than males ($\beta = .018, p = .01$). There was also a positive relationship between age and educational

attainment ($\beta = .04, p = .04$), meaning that an older age is associated with more opportunity to achieve more years of higher education. African Americans had higher attainment than White students ($\beta = .21, p = .02$); although this is not the national trend, this finding is likely a result of the over-sampling of African American students with college educated parents in the Add Health data set (Harris et al. 2009).

In the second model, dummy-coded variables for the main effects of mentor type and timing were included in addition to controls, and accounted for an additional 2 % of the variance in educational attainment ($\Delta R^2 = .02$). In relation to teacher-mentors (the reference category), kin-mentors ($\beta = -.54, p < .001$), community-mentors ($\beta = -.50, p < .001$), and friend/spouse-mentors ($\beta = -.55, p < .001$) negatively predicted educational attainment: That is, youth with any of these three mentor types reported lower educational attainment compared to youth with teacher-mentors. Also, compared to mentors before high school (the reference category) mentors after-high school predicted more attainment ($\beta = .23, p = .04$).

Table 2 Frequency of mentor type by ethnicity

Type of mentor	Ethnicity				Total
	White	Hispanic	African American	Other	
Kin	471 18.9 %	53 2.2 %	214 8.9 %	63 2.6 %	801 33.2 %
Community	339 33.2 %	34 1.4 %	96 4.0 %	52 2.2 %	521 21.6 %
Friend/spouse	305 12.7 %	31 1.3 %	91 3.8 %	36 1.2 %	463 19.2 %
Teacher	430 17.8 %	29 1.2 %	103 4.3 %	62 2.6 %	624 25.9 %
Total	1,545 64.1 %	147 6.2 %	504 20.9 %	213 8.8 %	2,409 100.0 %

In the third set of models, interaction terms between mentor type and time were added. Separate models were constructed for each mentor type to understand the impact of timing within each mentor type (see Table 3). We constructed interaction terms for mentor type and timing from their dummy variables (i.e., 2 interaction terms for each type), which were compared to the reference category of each given mentor type before high school. There were significant interactions with timing for teacher-mentors, kin-mentors, and community-mentors, but not friend-mentors. Among teacher-mentors, mentoring relationships that became important after high school predicted significantly higher attainment than teacher-mentors before high school ($\beta = .74, p = .01$); teacher-mentors during high school were not significantly different from teacher-mentors before high school ($\beta = -.03, p = .90$). Kin-mentors who became important during high school predicted significantly more educational attainment than kin-mentors before high school ($\beta = .43, p = .02$); kin-mentors after high school did not differ from kin-mentors before high school in relation to educational attainment ($\beta = -.01, p = .99$). Finally, among community-mentors, mentors after high school predicted less attainment than before high school ($\beta = -.50, p = .04$), but the difference between before and during high school mentors was not significant ($\beta = -.39, p = .07$). When dummy codes for all interaction terms were entered into the model together, the additive predictive value of the interaction terms for the mentor type by mentor time interaction was quite small ($\Delta R^2 = .01$), suggesting that together all type by time interactions explain just 1 % of the variance in educational attainment.

In the final models, ethnicity was included to understand the three-way mentor type by timing by ethnicity interactions. Models were created to test the interaction between type and timing among Hispanics and African Americans, separately, as compared to the rest of the sample. None of these three-way interactions were significant.

Discussion

The present study builds on previous work linking mentoring to educational attainment by shedding light on the role of mentor type and mentor timing. Past research suggests that teacher-mentors predict the best educational outcomes for young people with all types of mentors (Black et al. 2010; Erickson et al. 2009; Gastic and Johnson 2009) but has seldom looked at the age at which a mentor became important in predicting long-term mentoring outcomes. Because the needs of elementary school, high school, and young adult protégés may be quite different based on theoretical frameworks of mentoring (Kram 1988;

Nora and Crisp 2007; Rhodes 2005), we hypothesized that the beneficial impact of having a teacher-mentor on academic attainment might be augmented in the high school and post-high school years. We found that, while having a teacher-mentor after high school did predict higher attainment, having a teacher mentor during high school did not have a more pronounced impact than before high school. Findings regarding ethnicity suggested that although there may be different preferences of mentor types by ethnicity, the role of mentor type and timing function similarly in relation to educational attainment across groups. Our results demonstrate the importance of considering the developmental period during which mentors become important, in addition to the type of mentor, when examining educational outcomes in young adulthood. From a developmental perspective, these findings give some insight into when to encourage specific types of mentors.

Educational Attainment and Teacher-Mentors

Consistent with past research (Erickson et al. 2009), our findings suggest that teacher-mentors play a significant role in helping youth achieve higher educational training: Having a relationship with a teacher-mentor was related to higher educational attainment compared to having a kin-, community-, or friend-mentor. Even after accounting for high school GPA, which is a correlate of college completion (Zwick and Sklar 2005), having a teacher-mentor predicted more educational attainment overall. However, teacher-mentors who became important after high school stood out as the best predictor of attainment, suggesting a proximal role of teachers in college in offering educational support for college success. Selection effects are likely responsible for teacher-mentors after high school being the best predictor of educational attainment. That is, this finding is not surprising given that students who pursue higher education have access to more teachers and therefore have more opportunities to build relationships with them. Our findings suggest that, regardless of timing, students who build strong relationships with their teachers may be more likely to go on to higher education than students who have other types of mentoring relationships.

Teachers may be so influential because they provide academic support and role modeling (Allen et al. 2006; Sánchez et al. 2008) and may be able to provide feedback and support across all domains of life through regular contact with students. Students with fewer family resources may especially look to teacher-mentors for this type of support (Erickson et al. 2009). However, adolescents with college-educated kin-mentors may also acquire these same skills from their mentors. Given past findings that educational attainment of the mentor is a key predictor of protégé

Table 3 Main effects and interaction models of mentor type and mentor timing predicting educational attainment

	Predictors	Estimate	Std. error	t value	
Model 1	Intercept	1.74**	0.57	3.05	
	Sex	0.18**	0.07	2.56	
	Age	0.04*	0.02	2.08	
	GPA	1.07***	0.04	24.55	
	Hispanic	0.14	0.14	0.97	
	African American	0.20*	0.09	2.37	
	Other race	0.15	0.12	1.23	
Model 2	Intercept	2.55***	0.58	4.37	
	Sex	0.20**	0.07	2.90	
	Age	0.03	0.02	1.44	
	GPA	1.03***	0.04	23.66	
	Hispanic	0.18	0.14	1.23	
	African American	0.22**	0.09	2.58	
	Other race	0.13	0.12	1.04	
	Kin-mentor	-0.54***	0.10	-5.32	
	Community-mentor	-0.50***	0.10	-4.99	
	Friend-mentor	-0.55***	0.10	-5.34	
	During high school	-0.12	0.09	-1.42	
	After high school	0.23*	0.11	2.06	
	Model 3a Kin	Intercept	2.71***	0.59	4.61
Sex		0.20**	0.07	2.86	
Age		0.03	0.02	1.44	
GPA		1.03***	0.04	23.67	
Hispanic		0.16	0.14	1.13	
African American		0.21*	0.09	2.43	
Other race		0.11	0.12	0.94	
Kin-mentor		-0.75***	0.14	-5.36	
Community-mentor		-0.53***	0.10	-5.25	
Friend-mentor		-0.58***	0.10	-5.60	
During high school		-0.30**	0.12	-2.57	
After high school		0.12	0.13	0.89	
Kin during high school		0.43*	0.18	2.41	
Kin after high school		-0.01	0.31	-0.01	
Model 3b Community		Intercept	2.47***	0.59	4.22
		Sex	0.20**	0.07	2.86
		Age	0.03	0.02	1.45
	GPA	1.03***	0.04	23.70	
	Hispanic	0.17	0.14	1.16	
	African American	0.22**	0.09	2.49	
	Other race	0.11	0.12	0.96	
	Kin-mentor	-0.49***	0.11	-4.62	
	Community-mentor	-0.15	0.19	-0.78	
	Friend-mentor	-0.55***	0.10	-5.29	
	During high school	-0.04	0.10	-0.45	
	After high school	0.36**	0.13	2.73	
	Community during high school	-0.39	0.22	-1.81	
	Community after high school	-0.50	0.24	-2.05	

Table 3 continued

	Predictors	Estimate	Std. error	<i>t</i> value
Model 3c	Intercept	2.51***	0.59	4.29
Friend	Sex	0.20**	0.07	2.89
	Age	0.03	0.02	1.47
	GPA	1.03***	0.04	23.63
	Hispanic	0.18	0.14	1.27
	African American	0.23**	0.09	2.64
	Other race	0.14	0.12	1.13
	Kin-mentor	−0.52***	0.11	−4.99
	Community-mentor	−0.51***	0.10	−5.11
	Friend-mentor	−0.41	0.20	−2.09
	During high school	−0.11	0.10	−1.13
	After high school	0.34**	0.13	2.63
	Friend during high school	−0.07	0.22	−0.34
	Friend after high school	−0.40	0.25	−1.58
Model 3d	Intercept	2.46***	0.61	4.03
Teacher	Sex	0.20**	0.07	2.91
	Age	0.03	0.02	1.45
	GPA	1.02***	0.04	23.64
	Hispanic	0.18	0.14	1.29
	African American	0.23**	0.09	2.63
	Other race	0.13	0.12	1.11
	Kin-mentor	−0.45*	0.22	−2.05
	Community-mentor	−0.37	0.24	−1.57
	Friend-mentor	−0.43 [†]	0.24	−1.81
	During high school	−0.09	0.09	−0.92
	After high school	0.06	0.12	0.52
	Teacher during high school	−0.03	0.24	−0.12
	Teacher after high school	0.74**	0.29	2.50

$N = 2,395$, [†] $p < .10$; * $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$

outcomes (Chang et al. 2010), future studies should aim to better understand the mechanisms by which teacher-mentors, and other college-educated mentors, are able to support their protégés and encourage academic persistence.

Educational Attainment and Mentor Timing

Rather than looking solely at the effects of mentor type, the present study isolated various types of mentors to understand the stage of development (i.e., before, during, or after high school) during which it was most beneficial to develop a relationship with a given type of mentor. We found an overall main effect of mentor timing such that mentors who became important after high school predicted the best educational outcomes, perhaps speaking to the ability of mentors at this time to provide social capital and informational support to help navigate an unfamiliar academic setting. Although the type by timing interaction explained a very small amount of variance in educational attainment,

the main effect of mentoring timing did not hold among kin-mentors or community-mentors.

Regarding kin-mentors, results demonstrated that these relationships predicted more educational attainment when they began during high school. This finding does not support the social capital perspective from which we based our hypotheses, that is, that kin-mentors would have the necessary warmth, skills, and capital to help students build a foundation of educational success in early life, even if they did not have the opportunities or educational know-how to support students through rigorous high school courses or the college application process. When a kin-mentor becomes important during high school, the mentoring relationship may be geared toward success in high school and future planning than these kinds of relationships before high school. Kin-mentors of high school students may use these years as an opportunity to encourage their protégés to stay focused on academics at a time when many students lose focus or drop out. This finding also may be the result of a selection effect. Students with

many social and familial resources tend to seek out mentoring relationships (Erickson et al. 2009), and it may be that during high school, college-bound students have the capacity to seek out family members who they know can provide them the types of support they will need to be successful.

Among community-mentors, we found that when these relationships became important before high school, they predicted the best academic outcomes. In other words, young people who have supportive community members in their lives from a younger age are more likely to go on to complete more education than those who do not. It is possible that the warm, caring relationships that children can develop with their mentors provide an added dimension of support throughout adolescence that helps them to succeed in academics. It is also possible that selection effects are responsible, as people with higher socioeconomic status are more likely to enroll their children in extra-curricular activities in which they have the opportunity to build a mentoring relationship with a community member (White and Gager 2007). However, this category also included the parents of friends and religious leaders, relationships that would be less conflated with involvement in extra-curricular clubs, classes, and enrichment opportunities.

The Role of Ethnicity in Mentoring Relationships

An added contribution of this study was an exploratory analysis of the role of ethnicity, and we found no meaningful differences in the patterns of mentoring relationships and educational attainment across ethnicity. However, the types of mentoring relationships young people develop varied by their ethnic background. Our analyses demonstrated that Hispanic and African American students were most likely to report having a kin-mentor, whereas White students were more likely to report having a teacher-mentor. This finding supports previous work indicating the prevalence of kin-mentors among Hispanic (Sánchez and Reyes 1999) and African American students (Hurd and Zimmerman 2010). Given the importance of familial support and the close knit nature of families in both Hispanic and African American cultures (Nobles et al. 1987; Sabogal et al. 1987), it is logical that youth from these ethnic minority groups would turn to relatives for mentoring. Although less prevalent among Hispanic and African American youth, our finding regarding the importance of teacher-mentors suggests that fostering teacher-mentor relationships for these youth could be fruitful for promoting educational attainment. Also, it would be useful to better understand the features of kin-mentor relationships during high school to gain insight into why they might more effectively encourage education than other kin-mentoring relationships. Future research is needed to better understand the relationship between mentor type, ethnicity,

and social resources in order to best inform mentoring programs and social support services for young people.

Implications

Our findings speak to the potential potency of adult relationships during adolescence and beyond, and suggest that building mentoring relationships at key points in development may be beneficial for educational outcomes into young adulthood. As noted above, informal mentoring is quite prevalent (McLearn et al. 1998), and we found that various types of mentors, especially at particular times in an adolescent's life, can play a meaningful role in promoting educational attainment, and thus increase chances for stable employment and higher earnings, along with a host of other psychosocial and intellectual benefits that come from college attendance (Baum et al. 2010). It is notable that youth less likely to graduate from college, such as the Hispanic youth in our study, are also less likely to report having a teacher-mentor. Socioeconomically disadvantaged youth are also less likely to develop these and other mentoring relationships (Erickson et al. 2009). Although the teacher-mentor effect could be a result of more advantaged and college-bound youth seeking out teacher support, the clear implication is that educators at various levels could reach out to a broader range of youth to offer resources and support to promote college achievement. School environments that encourage mentoring, and teachers who take on a mentoring role, may be able to improve the chances of students' continuing their education.

Our type and timing findings may offer insight for mentoring or social support programs to help young people identify informal mentors who are most likely to help them be academically successful. The finding regarding community-mentors before high school demonstrates the importance of helping young people build community connections and develop relationships with caring adults who can provide them with added support during the myriad social, biological, and cognitive changes that occur during adolescence. Findings regarding the value of kin-mentors during high school suggest that we should not underestimate the abilities of high school students to identify mentors within their family who can support them in the college transition. Social support programs could utilize this knowledge to encourage students to seek out mentoring relationships with family members who have the skills, resources, and knowledge to help them achieve their educational goals. Perhaps by scaffolding the experience of selecting a natural mentor who has these skills, more students would be able to reap the benefits of a kin-mentoring relationship. Overall, the implications of this study may be useful in helping students and mentoring programs identify individuals who can provide academic support to young people at different stages.

Limitations, Future Directions, and Conclusions

This study relied on correlational data to understand associations between mentor type, timing, and educational attainment. Thus, we must consider the potentially bidirectional nature of these relationships. Students with more resources are more likely to develop mentoring relationships, especially with teachers (Erickson et al. 2009), thus, we must be careful not to presume that mentoring relationships cause positive academic outcomes. There are a number of outside variables, or selection effects, that may predict educational attainment and also relate to students' ability to find a specific type of mentor at a specific time.

One considerable limitation of this study is that little information was gathered about mentors. Without more information about the mentoring relationship, including when a relative or teacher became a "mentor" as rather than "important in the life" of a participant, we cannot parse the mentoring relationship from the relationship from which it was built. Given that past studies have demonstrated that mentor educational attainment is an important factor in predicting protégé outcomes, however, it is also possible that mentor type is conflated with educational attainment (Chang et al. 2010; Sánchez et al. 2008). Moreover, because both positive and negative mentor attributes can be transmitted through the mentoring relationship (Chang et al. 2010; Chen et al. 2003; Greenberger et al. 1998), future work should consider the social, education, and emotional resources available to mentors, as well as the content of the values and attitudes transmitted by mentors. These attributes may moderate the relationships between mentor type, mentor typing, and academic outcomes.

Finally, reliance on retrospective self-report for information about a single mentoring relationship is not ideal as reports can be distorted by the respondents' feelings or experiences at the time of data collection, and information can be lost from memory over time. It is possible that between when participants were asked about their mentors and 6 years later when outcomes were measured, that participants lost touch with their mentors, or built new mentoring relationships that affected outcomes. In addition, it is possible that respondents had more than one significant mentoring relationship, but only had the opportunity to report one of these relationships. A longitudinal study of mentoring that asks young people about their current mentors at multiple points across youth and adolescence would give us more information about mentor type and timing in relation to long-term outcomes.

In conclusion, this study builds upon past findings about the value of teacher-mentoring relationships (Dubois and Silverthorn 2005a) by exploring the interaction of mentor type with the time that the mentor became important. We

replicate the findings that mentor type and timing are interrelated (Gastic and Johnson 2009), and demonstrate that ethnicity plays a role in predicting the type of mentoring relationship that a young person develops. Further, the results highlight the diverse nature of mentoring relationships and note the age at which each type of mentoring relationship is likely to foster the most positive educational outcomes. As demonstrated by Erickson et al. (2009), teacher-mentors predict the best academic outcomes of any type of mentor, perhaps by providing social capital such as skills and knowledge of the school system to help their protégé succeed in college. While overall, we find that mentors who become important after high school predict the best academic outcomes, community-mentors before and kin-mentors during high school were related to higher educational attainment. As young people develop across adolescence and young adulthood, different types of informal mentoring relationships can be assets to strengthen youth's skills and resources in the attainment of educational success.

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References

- Allen, T. D., Eby, L. T., & Lentz, E. (2006). Mentorship behaviors and mentorship quality associated with formal mentoring programs: Closing the gap between research and practice. *Journal of Applied Psychology, 91*, 567–578.
- Bachman, J. G., Johnston, L. D., & O'Malley, P. M. (2011). *Monitoring the future: Questionnaire responses from the nation's high school seniors, 2010*. Ann Arbor, MI: Institute for Social Research.
- Baum, S., Ma, J., & Payea, K. (2010). *Education pays, 2010*. New York: The College Board.
- Beam, M. R., Chen, C., & Greenberger, E. (2002a). The nature of adolescents' relationships with their "very important" non-parental adults. *American Journal of Community Psychology, 30*, 305–325. doi:10.1023/A:1014641213440.
- Beam, M. R., Gil-Rivas, V., Greenberger, E., & Chen, C. (2002b). Adolescent problem behavior and depressed mood: Risk and protection within and across social contexts. *Journal of Youth and Adolescence, 31*, 343–357.
- Benson, P. L. (1993). *The troubled journey: A portrait of 6th–12th grade youth*. Minneapolis, MN: The Search Institute.

- Black, D. S., Grenard, J. L., Sussman, S., & Rohrbach, L. A. (2010). The influence of school-based natural mentoring relationships on school attachment and subsequent adolescent risk behaviors. *Health Education Research*, 25(5), 892–902. doi:10.1093/her/cyq040.
- Chang, E. S., Greenberger, E., Chen, C., Heckhausen, J., & Farruggia, S. P. (2010). Nonparental adults as social resources in the transition to adulthood. *Journal of Research on Adolescence*, 20(4), 1065–1082. doi:10.1111/j.1532-7795.2010.00662.x.
- Chen, C., Greenberger, E., Farruggia, S., Bush, K., & Dong, Q. (2003). Beyond parents and peers: The role of important non-parental adults (VIPs) in adolescent development in China and the United States. *Psychology in the Schools*, 40, 35–50. doi:10.1002/pits.10068.
- DuBois, D. L., Holloway, B. E., Valentine, J. C., & Cooper, H. (2002). Effectiveness of mentoring programs for youth: a meta analytic review. *American Journal of Community Psychology*, 30, 157–197.
- DuBois, D. L., & Karcher, M. J. (2005). Youth mentoring: Theory, research, and practice. In D. L. DuBois & M. J. Karcher (Eds.), *Handbook of youth mentoring* (pp. 2–11). Thousand Oaks, CA: Sage.
- DuBois, D. L., & Silverthorn, N. (2005a). Characteristics of natural mentoring relationships and adolescent adjustment: Evidence from a national study. *Journal of Primary Prevention*, 26(2), 69–92. doi:10.1007/s10935-005-1832-4.
- DuBois, D. L., & Silverthorn, N. (2005b). Natural mentoring relationships and adolescent health: Evidence from a national study. *American Journal of Public Health*, 95, 518–524.
- Erickson, L. D., McDonald, S., & Elder, G. H., Jr. (2009). Informal mentors and education: Complementary or compensatory resources? *Sociology of Education*, 82(4), 344–367. doi:10.1177/003804070908200403.
- Excelencia in Education. (2012). *Latino college completion in 50 states: National fact sheet*. Retrieved on August 9, 2012 from Edexcelencia.org.
- Gastic, B., & Johnson, D. (2009). Teacher-mentors and the educational resilience of sexual minority youth. *Journal of Gay & Lesbian Social Services*, 21(2), 219–231. doi:10.1080/10538720902772139.
- Greenberger, E., Chen, C., & Beam, M. R. (1998). The role of “very important” non-parental adults in adolescent development. *Journal of Youth and Adolescence*, 27, 321–343. doi:10.1023/A:1022803120166.
- Haddad, E., Chen, C., & Greenberger, E. (2011). The role of important non-parental adults (VIPs) in the lives of older adolescents: A comparison of three ethnic groups. *Journal of Youth and Adolescence*, 40, 310–319. doi:10.1007/s10964-010-9543-4.
- Harris, K. M., Halpern, C. T., Whitsel, E., Hussey, J., Tabor, J., Entzel, P., et al. (2009). The National Longitudinal Study of Adolescent Health: Research design. Retrieved from <http://www.cpc.unc.edu/projects/addhealth/design>.
- Harris, K. M., & Udry, J. R. (1994–2008). National Longitudinal Study of Adolescent Health (Add Health), ICPSR21600-v4. Ann Arbor, MI: Inter-university Consortium for Political and Social Research, 2011-03-18. doi:10.3886/ICPSR21600.
- Herrera, C., Grossman, J. B., Kauh, T. J., Feldman, A. F., & McMaken, J. (2007). *Making a difference in schools: The Big Brothers Big Sisters School-Based Mentoring Impact Study*. New York, NY: Public/Private Ventures.
- Hurd, N. M., & Zimmerman, M. A. (2010). Natural mentoring relationships among adolescent mothers: A study of resilience. *Journal of Research on Adolescence*, 20, 789–809. doi:10.1111/j.1532-7795.2010.00660.x.
- Chantala K., Kalsbeek, W. D., & Andraca E. (2004). *Non-response in Wave III of the Add Health study*. Available from: <http://www.cpc.unc.edu/projects/addhealth/files/W3nonres.pdf>.
- Karcher, M. J. (2008). The Study of Mentoring in the Learning Environment (SMILE): A randomized evaluation of the effectiveness of school-based mentoring. *Prevention Science*, 9(2), 99–113.
- Kogan, S. M., Brody, G. H., & Chen, Y. (2011). Natural mentor processes deter externalizing problems among rural African American emerging adults: A prospective analysis. *American Journal of Community Psychology*, 48, 272–283. doi:10.1007/s10464-011-9425-2.
- Kram, K. E. (1988). *Mentoring at work: Developmental relationships in organizational life*. Lanham, MD: University Press of America, Inc.
- Kuperminc, G. P., Thomason, J., DiMeo, M., & Broomfield-Massey, K. (2011). Cool Girls, Inc.: Promoting the positive development of urban preadolescent and early adolescent girls. *Journal of Primary Prevention*, 32, 171–183.
- Larson, R., Richards, M., Moneta, G., Holmbeck, G., & Duckett, E. (1996). Changes in adolescents’ daily interactions with their families from ages 10 to 18: Disengagement and transformation. *Developmental Psychology*, 32, 744–754. doi:10.1037/0012-1649.32.4.744.
- Liang, B., Spencer, R., Brogan, D., & Corral, M. (2008). Mentoring relationships from early adolescence through emerging adulthood: A qualitative analysis. *Journal of Vocational Behavior*, 72(2), 168–182. doi:10.1016/j.jvb.2007.11.005.
- Liang, B., Tracy, A., Taylor, C., & Williams, L. (2002). Relational mentoring of college women. *American Journal of Community Psychology*, 30, 271–288.
- Linnehan, F. (2001). Examining racial and family educational background differences in high school student beliefs and attitudes toward academic performance. *Social Psychology of Education*, 5, 31–48.
- Masten, A. S., Cutuli, J. J., Herbers, J. E., & Reed, M. J. (2009). Resilience in development. In S. J. Lopez & C. R. Snyder (Eds.), *Oxford handbook of positive psychology* (2nd ed., pp. 117–131). New York: Oxford University Press.
- McLearn, K. T., Colasanto, D., & Schoen, C. (1998). *Mentoring makes a difference: Findings from the Commonwealth Fund 1998 Survey of Adults Mentoring Young People*. New York: The Commonwealth Fund.
- Nobles, W. W., Goddard, L. L., Cavin, W. E., I. I. I., & George, P. Y. (1987). *African American families: Issues, insights, and directions*. Oakland, CA: Black Family Institute.
- Nora, A., & Crisp, G. (2007). Mentoring students: Conceptualizing and validating the multi-dimensions of a support system. *Journal of College Student Retention: Research, Theory and Practice*, 9(3), 337–356.
- Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical linear models: Applications and data analysis methods* (2nd ed.). Newbury Park, CA: Sage.
- Rhodes, J. E. (2005). A model of youth mentoring. In D. L. DuBois & M. J. Karcher (Eds.), *Handbook of youth mentoring* (pp. 143–157). Thousand Oaks, CA: Sage.
- Rhodes, J. E., Grossman, J. B., & Resch, N. L. (2000). Agents of change: Pathways through which mentoring relationships influence adolescents’ academic adjustment. *Child Development*, 71, 1662–1671. doi:10.1111/1467-8624.00256.
- Sabogal, E., Marin, G., Otero-Sabogal, R., Marin, B. V., & Perez-Stable, E. (1987). Hispanic familism and acculturation: What changes and what doesn’t? *Hispanic Journal of Behavioral Sciences*, 9, 397–412.
- Sánchez, B., Esparza, P., & Colon, T. (2008). Natural mentoring under the microscope: An investigation of mentoring relationships and Latino adolescents’ academic performance. *Journal of*

- Community Psychology*, 36, 468–482. doi:10.1002/jcop.20250.
- Sánchez, B., & Reyes, O. (1999). Descriptive profile of the mentorship relationships of Latino adolescents. *Journal of Community Psychology*, 27(3), 299–302.
- Snijders, T., & Bosker, R. (1999). *Multilevel analysis: An introduction to basic and advanced multilevel modeling*. London: Sage.
- Spencer, R. (2007). Naturally occurring mentoring relationships involving youth. In T. D. Allen & L. T. Eby (Eds.), *The Blackwell handbook of mentoring: A multiple perspectives approach*. Malden, MA: Blackwell Publishing.
- Sterrett, E., Jones, D. J., McKee, L., & Kincaid, C. (2011). Supportive non-parental adults and adolescent psychosocial functioning: Using social support as a theoretical framework. *American Journal of Community Psychology*, 48, 484–495.
- White, A. M., & Gager, C. T. (2007). Idle hands and empty pockets? Youth involvement in extracurricular activities, social capital, and economic status. *Youth & Society*, 39(1), 75–111. doi:10.1177/0044118X06296906.
- Wray-Lake, L., Crouter, A. C., & McHale, S. M. (2010). Developmental patterns in decision-making autonomy across middle childhood and adolescence: European American parents perspectives. *Child Development*, 81(2), 636–651. doi:10.1111/j.1467-8624.2009.01420.x.
- Wyatt, S. (2009). The brotherhood: Empowering adolescent African-American males toward excellence. *Professional School Counseling*, 12(6), 463–470. doi:10.5330/PSC.n.2010-12.463.
- Zimmerman, M. A., Bingenheimer, J. B., & Notaro, P. C. (2002). Natural mentors and adolescent resiliency: A study with urban youth. *American Journal of Community Psychology*, 30, 221–243.
- Zwick, R., & Sklar, J. C. (2005). Predicting college grades and degree completion using high school grades and SAT scores: The role of student ethnicity and first language. *American Educational Research Journal*, 42, 439–464.

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