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Naturally Occurring Mentorship in a National Sample of First-Generation College Goers:
A Promising Portal for Academic and Developmental Success

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Naturally Occurring Mentorship in a National Sample of First-Generation College Goers:
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People who attain a college degree are approximately twice as likely to be employed and make about 65% more in weekly earnings than those who have only a high school diploma (Bureau of Labor Statistics, 2017)—demonstrating the importance of educational attainment for achieving downstream stability. In addition to the economic implications, attaining a college degree has benefits for identity, cognitive, and socioemotional development (Perry, 1999; Trostel & Chase, 2015). As the need for a college education becomes ever more necessary to succeed in this global society, it becomes increasingly important that college be accessible for people from all backgrounds; unfortunately, there is still a great deal of inequality in the accessibility of higher education (Choy, 2001). Specifically, young people whose parents did not attend college are about one-third as likely to enroll in a four-year institution after high school graduation (Choy, 2001) and are nearly 30% less likely to graduate in 6 years compared to their peers with a parent who holds a bachelor's degree (DeAngelo, Franke, Hurtado, Pryor & Tran, 2011).

Tellingly, first-generation college (FGC) students face significant barriers to both access to and persistence in higher education; access may be blocked by any number of challenges including financial constraints, poor academic advising, or under-preparation in high school (Choy, 2001). Even upon enrolling in college FGC students are still more likely to face financial struggles (Choy, 2001; Metha, Newbold & O'Rourke, 2011; Terenzini, Springer, Yaeger, Pascarella, & Nora, 1996), are less likely to be academically prepared for their coursework (Atherton, 2014; Bui, 2002; Choy, 2001), and face a number of social barriers like isolation (Metha et al., 2011). These deficits in resources translate into very different experiences in and perceptions of college. In terms of their daily experiences, FGC students spend fewer hours

studying, participate in fewer extracurriculars and special programs, and spend more hours working for pay than continuing generation students (Chen & Carroll, 2005; Pascarella, Pierson, Wolniak, & Terenzini, 2004; Terenzini et al., 1996). Similarly, FCG students perceive their instructors to be less concerned about students (Terenzini et al., 1996), and are generally less satisfied with their academic and social experiences on campus (Metha et al., 2011).

Although a variety of programs and supports exist both at the pre-college (e.g., Talent Search, Upward Bound; AVID: Advancement Via Individual Determination) and collegiate levels (e.g., Student Support Services, Educational Opportunities Centers, McNair Scholars) to help these students (AVID, 2017; U.S. Department of Education, 2008), often they simply cannot be scaled to provide high quality services to all students who need them. While a small, but growing, body of literature demonstrates the benefit of *formal* mentoring programs for FGC students (Schultz & Mueller, 2006), very little research considers how FGC students seek and gain support from informal or naturally occurring mentors. The current study investigates the role that natural occurring mentoring plays in supporting the educational pursuits and successes of FGC students and their peers.

Mentoring for First-Generation Students

The support that young people receive from both formal and informal mentors before college may play a critical role in motivating them to attend college and giving them the skills and capital to be successful once they enroll (DuBois, Holloway, Valentine & Cooper, 2002; Sterrett, Jones, McKee, & Kincaid, 2011; Wang, 2013). Similarly, studies of college students' formal mentoring relationships speak to the importance of positive supportive adults in their lives (see Crisp & Cruz, 2009 for review), as college students in formal mentoring relationships with faculty and community members have higher grade point averages than their unmentored

peers (e.g., Campbell & Campbell, 1997; Salinitri, 2005). It is not surprising then, that educators who aim to promote college enrollment and retention look to mentoring as a tool to support students, especially those at higher risk of dropping or stopping out of college (Gershenfeld, 2014).

A number of mentoring programs exist to encourage underrepresented groups, including FGC students, to attend college and to remove barriers to entrance through academic and social enrichment and skill building (Schultz & Mueller, 2006; U.S. Department of Education, 2008). While effective, specialized mentoring programs only appeal to a select demographic of students and are similarly challenging to scale up to engage the majority of students who need support. To address this gap in support left by formal mentoring programs, there has been a recent effort to investigate the role of naturally occurring mentors in the lives of adolescents and college students that might promote their success.

Naturally occurring youth mentoring relationships are positive supportive relationships that young people develop with the adults already in their lives. Mentors may be community members, relatives, family friends, or educators who take a special interest in supporting a young person (Liang, Spencer, Brogan & Corral, 2008). Having a naturally occurring mentor can have a substantial impact on academic success and attainment (Chang, Greenberger, Chen, Heckhausen, & Farruggia, 2010; Fruiht & Wray-Lake, 2013; Miranda-Chan, Fruiht, Dubon, & Wray-Lake, 2016), and these relationships may be of particular value for adolescents with fewer social resources or more life stress (Erickson, McDonald & Elder, 2009; Kogan, Brody & Chen, 2011). Similarly, the literature on the informal and naturally occurring mentoring relationships of college students continues to develop, demonstrating the benefit of a supportive adult in promoting college student success (Crisp, 2010; Fruiht, 2015).

However, research looking specifically at the informal, naturally occurring mentoring relationships that FGC students develop that support their success is just beginning to emerge. One recent study modeled the relationship between the number of mentors a FGC or underrepresented minority student nominated during the college transition and how that predicted academic success (Hurd, Tan & Leob, 2016). The number of mentors a student nominated in his/her network of support in the first two semesters of college was predictive of downstream mental health and in turn academic success. This finding is reflective of a larger pattern within the investigation of college students' mentoring relationships in its emphasis on the existence of a supportive adult or mentor, rather than the specific things mentors might do to support a protégés academic progress (cf. Crisp & Cruz, 2009; Gershenfeld, 2014; Sterrett et al., 2011).

The Function of Mentors for First-Generation Students

In recent years there has been an effort among mentoring researchers to establish a framework with which to describe the functions of mentoring relationships for youth and emerging adults (e.g., Kogan et al., 2011). Rhodes and colleagues (2006) proposed that there are three overarching functions of youth mentoring relationships, that is, that mentors provide youth with *socio-emotional support, support for cognitive development, and support for identity development*. This model has been used in a number of empirical studies and recently was used in a taxonomy of youth mentoring functions (Miranda-Chan et al., 2016) that looked at the more specific dimensions of how mentors support young people that fall under each of these three categories. Miranda-Chan and colleagues' (2016) model included specific dimensions from various models of mentoring functions, including the functions specific to Nora and Crisp's (2007) model of college student mentoring functions (i.e., *psychological/emotional support,*

setting goals and choosing a career path, academic subject support, and role modeling). For instance, supporting the development of academic skills fell under the category of cognitive development, whereas support for goal setting and thinking about future careers fell under the category of identity development. Finally, Miranda-Chan and colleagues (2016) taxonomy included *tangible supports*, such as financial assistance or transportation as an additional form of support transmitted through a mentoring relationship. The convergence of adolescent and college student mentoring function models by provides a potential framework for research on mentoring that straddles the divide between obstacles to college enrollment and persistence.

Because many of the same obstacles bar high school students' college enrollment and FGC students' persistence, and the continuous nature of mentoring relationships and development, in the present investigation we will simultaneously investigate the functions of mentors in supporting FGC students' college enrollment and persistence. Given the academic under-preparedness of many FGC students (Atherton, 2014; Bui, 2002; Choy, 2001), mentors may play a critical role in building academic and cognitive skills both before and during college. FGC students are less likely to attend college because of parental or social expectations but rather because they see it as an opportunity to build a better life for themselves, gain status, and be able to help their families when they graduate (Blackwell & Pinder, 2014; Bui, 2002). Therefore, mentors during the college transition may be the people who provide FGC students the academic support or role modeling to make college a possibility. Similarly, FGC students are less likely to feel like they belong on campus (Metha et al., 2011) or perceive that their instructors are concerned about them (Terenzini et al., 1996), thus mentoring relationships with caring adults in the community may be a place where students can gain social skills and capital to build stronger relationships with peers. Finally, because they on average have fewer financial

resources than their peers whose parents attended college (Choy, 2001), mentors may be more likely to provide tangible supports to FGC students.

The Present Study

In total, despite the common use of mentoring as an intervention and qualitative accounts suggesting that mentors play a valuable role in supporting FGC students—the research on the naturally occurring mentoring relationships of young people whose parents did not attend college is underdeveloped. Studies have looked at formal mentoring programs for FGC students in very small, targeted populations of students, rather than larger, more inclusive national samples that might help us to better understand this large and diverse population of students. Therefore, in the present study we utilize a data from a nationally representative sample of adolescents to test the hypothesis that in predicting educational attainment in early adulthood, we would find a significant interaction between having a parent who attended college with having a mentor. That is, we expected that mentoring would moderate the relationship between parental educational attainment (attending vs. not attending college) and one's own educational attainment. In addition, we compare the primary functions of the mentoring relationships of FGC students to the mentoring functions received by continuing generation students and young people who did not attend college.

Method

Participants

Participants were drawn from the publically available sample of the National Longitudinal Study of Adolescent Health (ADD Health) data set. This nationally representative longitudinal study has tracked a cohort of adolescents (7th to 12th graders) since 1994 to better understand the predictors of health related outcomes in adulthood. Data were collected from

participants and their parents in their homes through computer-assisted personal interviews over the course of approximately 15 years. The present study utilized data from Waves I (1994-1995), III (2001-2002), and IV (2007-2009). The publically available data were retrieved through The Institute for Social, Cultural, and Policy Research (ISCPR; Harris & Udry, 1994-2008).

Wave I data from youth interviews were used for demographic information such as age, biological sex, and ethnicity, as well as level of parental education. Responses about mentoring functions were collected from Wave III participants (ages 18-28 years). Finally, Wave IV data, from participants aged 24 to 34 were utilized for educational attainment in young adulthood. In total responses for 4181 participants were analyzed in this study. The sample was 51.2% female, with racial diversity largely reflective of the United States at the time of Wave I data collection (60.7% White/Caucasian, 20.6% African American [oversampled], 8.4% Latino, 10.3% other). Participants with missing data on any of the key variables or covariates considered in this study were omitted from analyses. Of respondents at Wave I, 24.9% did not participate in the Wave III home interview, resulting in missing data regarding mentoring functions. Additionally, 14.4% of respondents who participated in both Wave I and III did not participate in Wave IV, resulting in missing educational attainment data. Just 28 participants (< .01%) who responded at all 3 waves of data collection were excluded as a result of missing data or non-response.

Measures

Educational attainment. Educational attainment was assessed at Wave IV with the item, “*What is the highest level of education that you have achieved to date?*” Ordinal response categories ranged from 1 (*did not finish high school*) to 10 (*doctoral or professional degree*; Fruith & Wray-Lake, 2013). For analyses in which college goers were compared to non-college goers categorically, responses were dichotomized such that participants who had attended at least

some college (5 or higher on the ordinal scale) were compared to those who had not attended any college, but may have attended vocational school (4 or lower on the ordinal scale).

Parental educational attainment. College graduation status of parents was assessed utilizing responses from the Wave I interviews. Participants responded to items about the educational attainment of their biological and residential non-biological parents (e.g., step parents). Responses were recoded dichotomously by the researchers such that a participant either had at least one biological or non-biological parent who had earned a Bachelor's degree or higher (coded as 0), or did not have at least one parent with this degree (coded as 1).

Covariates. Covariates used in this study were gender (0 = *male*, 1 = *female*), age (in years at Wave I), and ethnicity (dummy coded with *White* as the reference group).

Mentoring relationship. In the Wave III home interview participants responded *yes* or *no* to the question, "*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?*" The sample consisted of 3178 (76.0%) participants who reported having a naturally occurring mentor and a comparison group of 1003 participants who reported not having a mentor (24.0%).

Mentoring functions. Participants with mentors were asked to describe the functions that their mentors played with the question "*How did {he/she} help you?*" Responses were coded by three researchers using an adaptation of the coding scheme developed by Miranda-Chan and colleagues (2016) to assess the mentoring functions of naturally occurring community based mentors in this sample. This scheme originally comprised 18 codes developed from existing frameworks (Chen, Greenberger, Farruggia, Bush, & Dong, 2003; Greeson, Usher, & Grinstein-Weiss, 2010; Nora & Crisp, 2007; Kram, 1985; Rhodes et al., 2006; Spencer, 2010; Tolan, Henry, Schoeny, Lovegrove & Nichols, 2014) as well as iterative coding. Miranda-Chan and

colleagues (2016) developed this coding scheme by coding a subset of responses in the Add Health data set ($N = 1350$) including only individuals with community-based mentors (excluding relatives, spouses, and peers). In the present study, approximately 500 (15.7%) responses were first examined using only the 18 codes developed by Miranda-Chan and colleagues (2016). During this process, three additional codes emerged from responses including (support for goal striving, teaching social skills, and explicit identity development). The necessity for these new codes was driven in part by differences in the mentoring functions provided by familial and peer mentors who were not considered by Miranda-Chan et al. (2016).

Once a final coding scheme was established with the initial 500 responses, all responses in the dataset were assessed using the complete scheme. Each response was given a maximum of three codes. To assess inter-rater reliability, two independent coders assessed 6.3% ($N = 200$) of the responses individually and compared codes. In total, coders reached perfect agreement on 58% of responses, but agreed on at least one of three codes in 88% of codes. Disagreements were resolved through discussion, which led to additional clarification of some individual codes. One final coding pass was conducted collaboratively on all responses to improve the distinction between the codes for *coaching*, *support for goals*, and *skill-building*. Codes were then organized under the meta-codes established Miranda-Chan et al. (2016). These three meta-codes comprise socioemotional support, cognitive support, and identity development support, the three primary youth mentoring functions established by Rhodes and colleagues (2006). The additional theme of tangible support was assessed separately, as it did not fit under a meta-code, but appeared in 9.3% of responses. See table 1 for a complete taxonomy of codes. Therefore the current study uses a four pronged model of mentoring functions including socioemotional

support, support for cognitive development/academic subject support, support for identity development/setting goals, and tangible support.

Results

Parental Education and Educational Attainment

To test the hypothesis of a significant interaction effect of having a parent who attended college with having a mentor in predicting academic attainment, we utilized Preacher and Hayes' (2008; Model 1) PROCESS model to test moderation. The overall model was significant, $F(8, 4172) = 111.98, p < .001$, and explained approximately 18% of the variability in educational attainment (see table 2). As hypothesized, in the final model we found a significant main effect of parental education ($B = -1.91, t = -14.37, p < .001, 95\% CI = -2.18 \text{ to } -1.65$) such that students who had at least one parent who graduated from college moved about two steps further in their education (e.g., the difference between a high school graduate and someone who completed a vocational certification, or the difference between a bachelors and doctoral degree). There was also a significant main effect of the presence of a mentor ($B = .40, t = 3.68, p < .001, 95\% CI = .19 \text{ to } .61$) such that students who reported having a mentor in adolescence or emerging adulthood, had significantly higher educational attainment than those who did not. This effect was smaller in magnitude, explaining just a half step further, on average on our ordinal scale of educational attainment. Finally, there was a significant effect of race such that African Americans had significantly lower educational attainment than other participants.

In addition, the analysis revealed a significant interaction between parental education and availability of a mentor in the final model, suggesting that having a mentor moderates the relationship between having a parent who graduated from college and educational attainment in adulthood. The interaction effect was very small but statistically significant ($\Delta R^2 = .001, p < .05$).

Having a mentor was more beneficial for young people whose parents did not attend college ($B = .74, p < .001$) than for those with at least one parent who is a college graduate ($B = .40, p < .001$). However, having a mentor did not completely ameliorate the overwhelming effect of being a first-generation college goer on educational attainment.

Mentoring Functions Between Groups

To explore the mentoring functions received by first-generation college goers, we analyzed the frequency of self-reported mentoring functions received as coded from open-ended responses. Of 3178 total participants with mentors, 2283 (71.8%) attended at least some college, and 1813 (57.0%) had at least one biological parent who graduated from college. To better understand the mentoring functions received by FGC goers (i.e., students who attended at least some college, but who did not have a parent who had graduated from college; 23.9%), this population was compared to three other groups of students in this sample. These groups comprised continuing-generation students (i.e., students who attended at least some college, and had a parent who was a college graduate; 47.8%), non-college goers with college-graduate parents (9.2%), and non-college goers whose parents had not graduated from college (19.1%).

Overall, regardless of educational experience or parental education level, the most common mentoring functions received by all four were socioemotional supports, as 56.2% of individuals with a mentor reported receiving at least one support from this category. Between group differences were tested with chi-squared tests of independence and between groups paired comparisons (see figure 1). There were no significant differences between groups in socioemotional supports ($\chi^2 (3) = 5.72, p = .126$). The least common mentoring functions were cognitive supports, as just 23.9% of individuals reported these supports. Although the overall test of independence was non-significant ($\chi^2 (3) = 5.76, p = .124$) between group comparisons

demonstrated that continuing generation college goers received significantly more of these supports from their mentors (25.3% reporting at least one) than young people who did not go to college but whose parents were college graduates (19.1% reporting at least one). However, neither group was significantly different in cognitive mentoring functions than FGC students (23.3% reporting at least one).

The most marked between group differences were in the realm of support for identity development ($\chi^2(3) = 27.47, p < .001$). Overall, students who attended college received substantially more support for identity development (38.0%) than did non-college goers (29.3%). These differences were even more notable when we compared FGC students to the other three groups. Again, continuing generation students received by far the most support in this category (39.5%), and received significantly more support than any other group. FGC students, however, received significantly more (34.9%) of these supports than those young people who did not attend college and whose parents were college graduates. Just 28.9% of these participants received support for identity development. Neither FGC students nor non-college goers with college graduate parents different significantly from non-college goers whose parents had attended college (32.4%).

Finally, we considered differences in tangible supports across the four groups ($\chi^2(3) = 32.42, p < .001$). Here, we saw the inverse pattern we had found in looking at identity functions. Continuing generation students received significantly less tangible support from their mentors than any other group (6.8%). FGC students (9.9%) received more than continuing generation, but significantly less than non-college goers whose parents did not attend college (14.5%). Neither group was significantly different from non-college goers with college graduate parents (11.9%).

Discussion

A college degree is increasingly critical to financial stability and positive developmental outcomes in adulthood (Trostel & Chase, 2015) yet people whose parents did not earn a degree have a harder time going to and finishing college (Choy, 2001). Mentoring relationships, which have been clearly demonstrated to promote positive academic and developmental outcomes from young people of many backgrounds (DuBois et al., 2002, Erickson et al., 2009, Miranda-Chan et al., 2016) may be one key factor to help reduce this opportunity gap. The current study's findings shed light on the value of and processes by which naturally occurring mentoring relationships support FGC students and their peers. Specifically, results demonstrate that both having a parent who graduated from college and having a mentor were strong predictors of academic attainment in young adulthood. Moreover, results revealed a weak interaction between these two developmental assets, such that having a mentor is somewhat more beneficial for FGC students than for their continuing generation peers. However, mentoring functions received by first- and continuing- generation college students looked much more alike regarding support than their counterparts who did not attend college.

Our findings suggest that mentors can serve as compensatory resources to FGC students, making academic and retention outcomes for involved FGC students look more like those of continuing generation students. Past studies have demonstrated that adolescents who come from lower socioeconomic status (SES) backgrounds and who have access to less social and cultural capital, benefit more from mentoring relationships than their counterparts with more resources (Erickson et al., 2009; Timpe & Lunkenheimer, 2015). Therefore, mentors may be of particular value to FGC students who may not have other people in their lives supporting their access to and success in college. However, it should be noted that the size of this effect was very small,

and notably smaller than Cohen's convention for a small effect size (.001 versus .2; Cohen, 1988). Also in line with these past findings, even with the presence of a mentor, adolescents without a college graduate parent did not achieve as highly as those whose parent graduated from college. Thus, we can add the support of mentors to the growing list of resources that, when in place, might create a more level playing field in college for young people of differing background, bearing in mind that FGC students may have less access to mentors (Pascarella et al., 2004), and that a mentor does not fully compensate for lower parental education.

Mentoring Functions Received by FGC Students

The most notable difference in mentoring functions was in the level of support for identity development (such as role modeling and encouragement towards personal, academic, and career goals) between groups. Specifically, FGC and non-college going students receive significantly less of these supports from their nominated mentors than their continuing generation peers, which may contribute to the opportunity gap facing young people whose parents did not attend college. These supports may be just as critical for providing young people encouragement to pursue higher education and increase their future potential for supporting the academic progress once in college. For instance, encouragement from teachers and mentors is cited as a source of motivation to attend college by young people whose parents did not (Blackwell & Pinder, 2014). Similarly, naturally occurring mentoring relationships with teachers prior to college strongly predict college attendance (Erickson et al., 2009; Fruht & Wray-Lake, 2013), and on-campus mentors encourage students to strive for academic success (Wang, 2013), speaking to the benefit of academic role models for fostering goal striving. While young people likely receive some identity support from various important adults in their lives during adolescence (i.e., their developmental networks), our analyses demonstrate that continuing

generation college students are most likely to see this support as a critical function of the most influential non-parental adult in their lives. Therefore, results suggest that identity support may be one critical form of mentoring that is lacking among the students who need it most to promote their success.

In contrast, differences in cognitive supports (such as skill building and coaching) were much smaller, and no groups differed significantly from FGC students in terms of the amount of these supports received from a nominated mentor. However, it is possible that the degree of these cognitive supports that they receive elsewhere, from parents and other supportive adults, may be quite different. Therefore, while cognitive supports likely contribute to the successes of FGC students in overcoming barriers to college entrance, the performance differences between first and continuing generation students in college (Pascarella et al., 2004) suggest the need for additional cognitive supports among young people with fewer socioeconomic and educational resources. For example, as FGC students are less likely to see the relationship between their high school academic preparation and performance and college success (Atherton, 2014; Boden, 2011), and therefore instead of seeking out help early to improve their less developed skills, they may not recognize their under-preparation until they are faced with the consequences of poor performance and must respond by trying to catch up (Metha et al., 2011). Similarly, FGC students are less likely to use active coping strategies to deal with the stressors of college life by building up psychosocial resources to have in place when challenges arise. Instead, they are more likely to react to stressors as they arrive, which is a less adaptive strategy of coping with stress overall (Metha et al., 2011). This may be a place where mentors could intervene with the teaching of academic skills or encouraging students to be more proactive in seeking out support before challenges derail academic progress.

Potential Causes for Disparities in Mentoring Functions

These differences between first-generation and continuing generation college students' mentoring experiences may be driven by differences in socioeconomic resources (Choy, 2001). Young people whose parents have more financial and social resources may have more opportunities to network with higher-status mentors and have more support for developing and capitalizing on these relationships (Erickson et al., 2009; Schwartz, Chan, Rhodes, & Scales, 2013). Therefore those continuing generation students with the most resources have the benefit of additional social capital (Lui, Chung, Wallace, & Aneshensel, 2014)—providing access to mentors who can provide identity and cognitive support and who have attended college themselves (Erickson et al., 2009).

Similarly, the difference in tangible supports (such as financial help, transportation and childcare) provided by mentors likely speaks to the SES differences between individuals whose parents attended college and those whose did not. Responses coded as tangible support were often related to giving rides, helping with child care, or providing financial stability, but many young people explained that their mentors took them in and gave them a place to live when they needed it. As is well documented in the literature, FGC students are more likely to face financial hardship while in college (Choy, 2001; Metha et al., 2011; Terenzini et al., 1996), and thus may be more in need of these tangible supports than continuing generation students. However, non-college goers with degree-holding parents also received tangible supports in similar levels to young people whose parents did not graduate from college. Again, SES disparities may also account for this difference. Given the rising cost of education and the financial barriers to higher education, it is quite likely that the would-be continuing generation students who did not attend college themselves likely had fewer financial resources, on average, to do so.

The finding that those with the fewest resources receive the most tangible support stands somewhat in contrast to past literature suggesting that it is the highest SES adolescents and emerging adults who are most likely to be financially supported by their parents (Fingerman, Kim, Davis, Furstenberg, Birditt, & Zarit, 2015), and who tend to receive more intergenerational financial support from relatives in adulthood (Jayakody, 1998), furthering patterns of inequality. Relatively less financial support from parents may create a situation in which adolescents rely on non-parental adults for financial and tangible supports. For example, while higher SES adolescents may be given a car by a parent or relative, lower SES young people may be more in need of rides from the supportive adults in their lives to get to school or work. Conversely, the difference in reports of tangible supports may be a result of the fact that adolescents were asked simply to identify what their mentor had done for them, likely eliciting responses about the most salient or significant mentoring functions they could recall. Those higher SES adolescents might not have seen tangible supports as the most noteworthy thing a mentor could do. These types of supports might be things that would be accessible in other ways, or things that are taken for granted by young people with many resources, whereas for a lower SES adolescent they may have been viewed as more important.

Alternatively, differences in mentoring functions reported between college goers and non-college goers may also result in part from the opportunities and shifts in world-view that come with college attendance. For instance, FGC students' report that their mentoring relationships on-campus encouraged them to pursue academic success and increase their future potential, while also supporting their decision making and providing support and encouragement (Wang, 2013). It is likely that the types of mentoring that college faculty and staff provide may emphasize more cognitive, academic, and career oriented skills and less likely to emphasize

tangible support. However, no large-scale investigations of the differences in mentoring functions provided by different types of mentors currently exist in the literature (cf. Crisp & Cruz, 2009; Gershenfeld, 2014). Similarly, differences may result from differences in perceptions of what is the most important function of a mentor. College graduates may perceive identity support as the most critical function of a primary mentor because of their experiences of self-exploration and discovery during college. College attendees spend more time exploring their own sense of identity (Luyckx, Schwartz, Goossens, & Pollock, 2008; Munro & Adams, 1977) making this mentoring function more salient to them leading them to report it more frequently than non-college goers who were not afforded the same opportunities for identity exploration.

Limitations, Implications, and Future Directions

This study investigated naturally occurring mentorships in a large nationally representative sample of youth. Because approximately 36% of participants in the initial study did not participate Wave III or IV data collection, and these individuals may be systematically different than those participants who participated, results should be generalized with some caution. Like much of the scholarly research on mentoring (Johnson, Rose & Schlosser, 2007), this study utilized retrospective questions to capture mentoring. This highlights the need for more research on mentoring functions while mentoring relationships are underway. Furthermore, with longitudinal survey data, we can provide only correlational descriptions of the relationships between mentoring experiences and downstream outcomes. Experimental methodologies demonstrate similar benefits of mentoring for youth and college students in more formal mentoring relationships (e.g., Dennehy & Dasgupta, 2017; Schwartz, Rhodes, Spencer, & Grossman, 2013) and creative methodologies have been utilized to make causal inferences about the effects of naturally occurring mentors (e.g., McDonald & Lambert, 2014). However, the

nature of informal mentoring relationships make them challenging to study experimentally.

This study also investigated one single important mentoring relationship rather than networks of supportive relationships. Therefore, we can only draw conclusions about the differences in mentoring functions of a single individual mentor. It is likely that many respondents received different types of support from parents and various other supportive adults in their lives not captured by this measure. Hurd and colleagues (2016) recent work suggested the importance of broad networks of support for FGC students and underrepresented students. Similarly, investigations into mentoring relationships both in higher education (Chandler & Kram, 2005) and in the workplace (Van Emmerik, 2004) have shown the benefit of networks of supportive relationships. A fruitful direction for future research would be to explore adolescents' developmental networks and how mentoring functions are spread across supporters. This could allow for understanding of the process through which mentoring relationships aid in the success of young people. It would also allow researchers to parse the compensatory role of mentors for young people whose parents provide many important skills and resources, but may not be able to provide practical advice for college success.

The naturally occurring mentors in the lives of young people can also be critical to academic persistence and may provide a viable and scalable solution that harnesses already existing infrastructure in youths' lives. Federally supported community, high school, and university level programs like TRiO programs often include a mentoring component to encourage FGC students to explore their college options, teach practical academic skills (Perna, 2008; U.S. Department of Education, 2008), and create a sense of community and support (U.S. Department of Education, 2008). Even mentoring programs not tied to specific academic skills, like those aimed at self-advocacy, goal setting, and study skills, have been demonstrated to

promote retention and student success (Bettinger & Baker, 2014). The present findings, however, demonstrate that supports from teachers, counselors, family, and employers potentially play a role in development by reaching out to promising young adolescents and supporting their development and success.

Further, the current study speaks to the importance of mentoring relationships in promoting success for young people from all backgrounds, and demonstrates mentors who support goal setting, act as role models, and instill positive personal attributes and esteem in their protégés tend to predict the most positive academic outcomes. Thus, while socioemotional support is the most common form of support to provide, and is important in predicting psychosocial outcomes (Hurd & Zimmerman, 2014)—we should not underestimate the role of skill and identity development as mentoring functions. These findings are timely as enrollments in higher education grow and diversify and colleges face the challenge of figuring out how best to support and retain students who may be academically underprepared or lack the cultural capital to support success in college.

Conclusions

These findings speak to the power of naturally occurring mentoring relationships to equalize the social and cultural capital young people garner from their communities and the weight of that capital in predicting long-term academic success. This is a valuable finding not only for educators and community members who serve as informal mentors but also for organizers who facilitate mentoring programs in their communities and organizations. Although providing general support for people who want to attend college is necessary—understanding the developmental and familial backgrounds of youth is imperative to provide tailored supports to set them on positive developmental trajectories. Thus, the query is not whether mentoring is

good for FGC students, but what supports they need to enter and thrive in the college environment.

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Table 1. Descriptions of codes, metacodes, and relative frequencies.

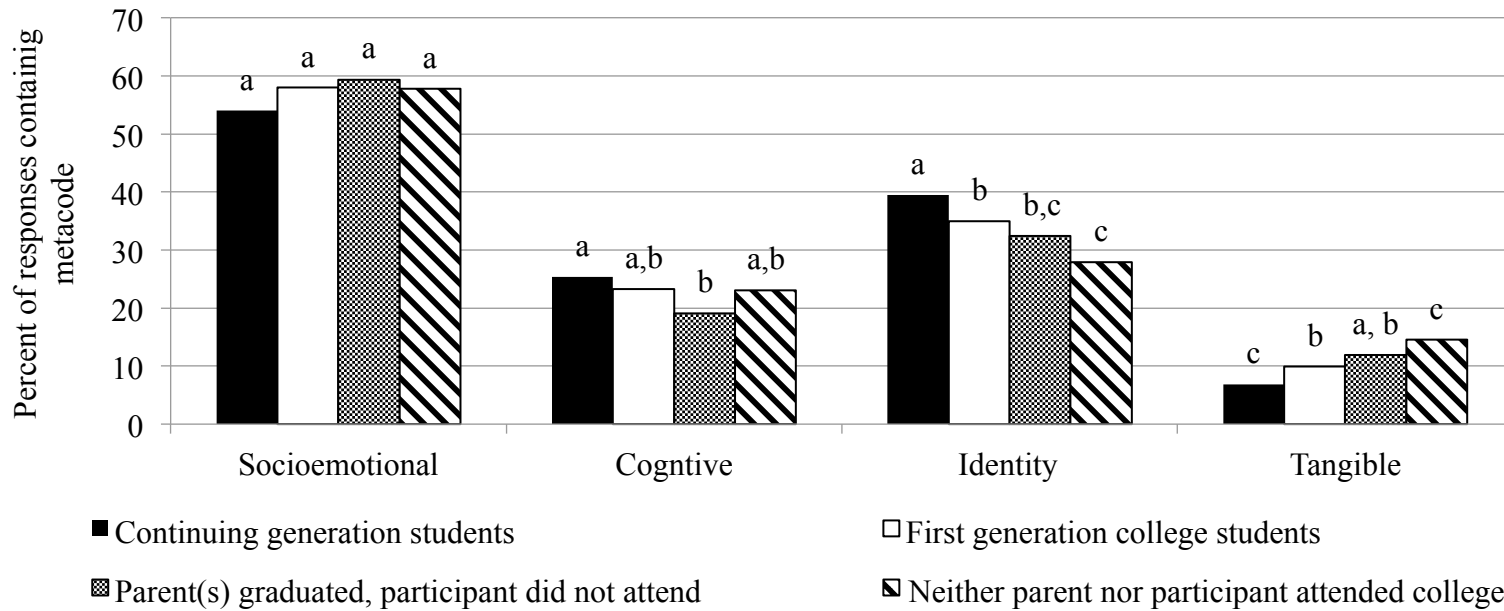
Metacode	Code	Examples	Relative Frequency
Socioemotional	Support	<i>“always been there for me,” “been supportive and understanding”</i>	34.2%
	Counsel	<i>“always had good advice,” “provided guidance”</i>	20.7%
	Friend	<i>“friendship,” “good friend”</i>	6.7%
	Parent-like	<i>“was a father figure to me,” “surrogate mother”</i>	4.7%
	Social Skills/ Interpersonal	<i>“helped me with my relationships with my mom” “with social/friend stuff”</i>	2.7%
Cognitive	Coach	<i>“helped me with career guidance” “she helped me in my job” “supported my education”</i>	11.3%
	Perspective	<i>“see the world differently,” “put everything in perspective”</i>	7.0%
	Skill development	<i>“learn how to write” “how to work on engines”</i>	3.9%
	Sponsor	<i>“recommended me for my current job”</i>	2.1%
	Challenge	<i>“he challenged me to think”</i>	1.4%
Identity	Positive personal attributes ⁵	<i>“helped me become a more responsible person” “helped me grow up”</i>	9.5%
	Support towards goals	<i>“he focused me,” “provided inspiration”</i>	7.8%
	Role model	<i>“positive role model,” “good role model”</i>	7.5%
	Spiritually	<i>“spiritual growth” “help me find god”</i>	4.5%
	Social capital of mentor	<i>“positive influence” “positive attitude”</i>	3.4%
	Identity development	<i>“Helped me be the man I am today” “figure out who I am”</i>	3.2%
	Regard	<i>“she thinks highly of me,” “believed in me”</i>	2.3%
	Protect	<i>“after school kept me out of trouble,” “kept me away from the wrong crowds”</i>	2.0%
	Ethics	<i>“moral guidance” character</i>	1.4%
Tangible	Tangible Support	<i>“helped me financially,”</i>	9.3%
Unclassified	Unspecified, general support	<i>“everything,” “mentor” “we are similar”</i>	4.3%

Note. Each response was given up to 3 codes, relative frequency includes total percent of responses that included this code.

Table 2. PROCESS model 1 testing parental education as a moderator of the relationship between natural mentoring and educational attainment

	R^2	F	B	Std. Error	LLCI	UCLI
	.177	111.957				
			4.903	.408	4.104	5.702
Age			.023	.017	-.011	.057
Sex			.590***	.063	.467	.714
Hispanic			-.119	.123	-.359	.122
African American			-.2616***	.077	-.412	-.111
Other Race			-.0589	.109	-.272	.154
Mentor			.400***	.109	.186	.612
Parental Education			-1.914***	.133	-2.175	-1.653
Mentor*Parental Ed.			.3453***	.151	.050	.640

Note. $\Delta R^2_{interaction} = .001$, $F(1, 4172) = 5.263$, $p = .022$; Mentor coded $1 =$ mentor present, Parental Education coded $1 =$ no parent attended college; * $p < .05$, ** $p < .01$, *** $p < .001$.



Note. Each letter denotes a sub-sample whose proportions do not differ significantly from each other at the .05 level.

Figure 1.
 Percent of responses containing each metacode by parental and participant educational attainment