

**Exploring the Association between Mentoring Relationships
and Sexual Health Behaviors in College**

BY
FASIKA YIRGA ALEM
BA, Knox College, 1997
MPH, University of Illinois at Chicago, 2001

DISSERTATION

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Defense Committee:

Edward Mensah, Chair and Advisor
Memoona Hasnain
Michael Cailas
Kamal Eldeirawi, Nursing
Myrtis Sullivan, Next Level Health Partners

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SUMMARY

This exploratory study investigated the prevalence and characteristics of mentoring relationships among college students, assessed the prevalence of sexual health discussions and supports in mentoring relationships, the relationship between mentoring and sexual health behaviors among study participants.

The presence of mentoring relationships was assessed using a one-item measure that asked respondents to indicate if they had someone in their life who they considered a mentor. A mentor was defined as *“someone you can go to for support and guidance or if you need to make an important decision or someone who inspires you to do your best”*. Respondents reported the characteristics of the mentor and the mentoring relationship, including the frequency of contact with the mentor, the duration of the relationship, their perceptions of support from the mentor, and whether they had sexual health discussions with their mentor. Respondents also reported their demographic and background characteristics, including year in college, residence, campus student organization participation, and community service. Additionally, students were asked to report on their sexual health behaviors, including the number of sexual partners they had in the last year, the status of their last sexual partner (casual versus steady partner), condom use frequency, use of a condom the last time they had sex, and whether they were tested sexually transmitted infections within the last year. Data was analyzed using descriptive statistics and associations between variables were explored using chi-squared tests, Fisher’s exact tests, Student’s t-tests, and one-way analysis of variance (ANOVA).

One-hundred and thirty-seven students at a large, urban, four-year university in the Midwest participated in the study. Eighty-five percent of participants reported having at least one mentor in their life; 9% had a mentor within the university (a University mentor), 42% had a mentor from outside the university (a Community mentor), and 34% had both a University mentor and a Community mentor. In this study most mentoring relationships were informal or natural, which are relationships that develop spontaneously between a mentor and mentee who is already a part of one another's social network (as distinct from relationships that develop by virtue of a program that links mentors and mentees, i.e. a formal mentoring program).

University mentors were more likely to be matched by gender, but not race/ethnicity, with their mentees and Community mentors were more likely to be matched by gender and race/ethnicity with their mentees. Types of mentors also varied between University and Community mentors. Over half of University mentors (54.2%) were other students at the university; far fewer were faculty (32.2%) or staff (13.6%). On the other hand, 50.0% of Community mentors were family members, 28.8% were non-familial adults, and 21.2% were peers (those no more than five years older than the mentee). Additionally, a greater proportion of faculty mentors were males while a greater proportion of familial mentors were females.

Mentor type was found to be significantly associated with relationship duration, frequency of contact, and sexual health discussions. Relationships with student mentors (among University mentoring relationships) and with familial mentors (among Community mentoring relationships) had significantly longer durations than relationships with other types of mentors. Relationships with student or peer mentors were associated with more frequent contact and with sexual health discussions compared to relationships with other types of mentors (faculty,

staff, familial, and non-familial). Sexual health discussions were more likely to occur in relationships with more frequent contact for both types of mentoring relationships.

Students with a mentor, particularly those with a University mentor, were more likely to have participated in campus student organizations and community service than students with no mentor. Some differences in sexual health behaviors were also found between students who reported having a mentor and those who reported no mentor – particularly in number of sexual partners and condom use frequency. Students who reported University mentors (most of whom were student mentors) were more likely to report two or more sexual partners than students with no mentor or students with a Community mentor. Similarly, students who reported a peer Community mentor were more likely to report two or more sexual partners than students with no mentor or students with a familial or non-familial mentor. Additionally, among students with a Community mentor, those with a familial mentor were more likely to report consistent condom use (always/mostly using condoms) than those with a peer or non-familial mentor. Comparisons of sexual health behaviors and mentoring relationship characteristics found that students who had daily contact with their Community mentor were less likely to report two or more sexual partners than students who had less frequent contact. These students were also less likely to report that their last sexual partner was a casual partner than students who had less frequent contact with their Community mentor.

Interpretations of the findings in this exploratory study suggest that natural mentoring relationships may have mixed effects on sexual health behaviors among college students. In particular, it appears that having natural mentors that are peers (i.e. other students) may be

associated with sexual health behaviors in a less favorable direction. However, this study had a number of limitations that suggest cautious interpretation of findings.

I. INTRODUCTION

A. Background

Many college students have multiple sexual partners in a relatively short period of time, report low levels of consistent condom use, engage in casual sex, and combine alcohol and sex (American College Health Association [ACHA], 2014; Bogle, 2008; Grello et al., 2006; Owen et al., 2010; Reel and Hellstrom, 2013). In fact, college students engage in behavioral risks (including heavy episodic drinking, marijuana use, and multiple sexual partners) more than their non-college peers (Fromme et al., 2008). Risky sexual behavior has the potential to affect students' physical health but can also disrupt their academic progress. Results from the Spring 2014 National College Health Assessment (NCHA) undergraduate survey revealed that 0.3% of college students nationwide reported academic performance issues as a result of a sexually transmitted infection; 10% reported that relationship difficulties affected their academic performance; and 0.7% reported that a pregnancy had similar affects (ACHA, 2014).

Mentoring has gained increasing popularity among institutions of higher education. It is viewed as an intervention model that provides social support, including guidance, encouragement, and a sense of belonging, buffers the effects of adjusting to a new environment, and improves student persistence and success (Allen et al., 1999; Crisp and Cruz, 2009; Gershenfeld, 2014; Rhodes, 2008). In addition to its positive effects on academic outcomes (Allen et al., 1999; Crisp and Cruz, 2009; Sanchez et al., 2006), mentoring has also been shown to have positive impacts on non-academic behavior among adolescents and emerging adults, including sexual health behavior (Beier et al., 2000; Eby et al., 2005; DuBois and Silverthorn, 2005a; Newton et al., 2006; Zimmerman et al., 2005). Mentoring, therefore,

may provide an effective intervention to address both academic and health-related challenges among college students. Additionally, mentoring can facilitate a young person's development in multiple domains (DuBois et al., 2011), thereby providing a developmentally appropriate and cost-effective intervention option.

However, the effect of mentoring on the health behavior of college students has received little attention and the available research offers limited evidence, especially for sexual health behaviors. Recent systematic reviews of the literature (Crisp and Cruz, 2009; Gershenfeld, 2014) found major methodological limitations in studies of mentoring among college students including the lack of operational definition of mentoring and a lack of comparison/control groups; further, many published studies lacked adequate descriptions of the prevalence and characteristics of these relationships.

B. Purpose of the Study

The aims of this exploratory study were to assess the prevalence and characteristics of mentoring relationships in a sample of college students; to assess the prevalence of sexual health discussions and supports in mentoring relationships; and to explore the relationships between mentoring and sexual health behaviors.

C. Significance of the Study

Although some risky behavior is part of the normative development trajectory of college students, it has the potential to disrupt education by negatively affecting a student's academic performance and ability to adjust to college life (Basch, 2010; CDC, 2010). About half of all sexually transmitted infections (STIs) occur between 15 to 24 years of age, and if not diagnosed

and treated early, some STIs can cause serious health problems (CDC, 2013b). Although estimates of prevalence rates of STIs among college students vary widely; some studies have reported rates as high as 25% (Cooper, 2002). Screenings conducted in ten universities/colleges in the southern United States revealed a 9.7% prevalence of Chlamydia and a 1.7% prevalence of Gonorrhea (James et al., 2008). Recent data from the NCHA indicate that 1.2% of respondents reported being diagnosed or treated for Chlamydia in the previous year, and 2.0% of college women who were sexually active in the last year reported experiencing an unintended pregnancy (ACHA, 2014); previous studies have put this percentage at between 12% and 23% (Story, 1999).

Risky sexual behavior can affect a student's physical as well as academic health, in turn affecting academic success and persistence to graduation. Stress and anxiety related to unhealthy relationships, breakups, STIs or pregnancy may also impact academic performance (Stewart et al., 1999). Eleven percent of teens experience their first episode of major depression after a recent breakup (Auslander et al., 2006). Furthermore, feelings of guilt, stigmatization and isolation from peers and family as a result of an STI or pregnancy can further impact the academic performance of college students (Story, 1999).

Mentoring interventions may influence multiple wellness dimensions that affect a student's adjustment to the college environment in a variety of ways, including academically, socially, and sexually. A "whole student" approach to support initiatives, one that integrates health behavior interventions, is essential to increasing student persistence and success in college. University-based mentoring relationships may provide a relevant context for behavioral risk prevention interventions, owing to both the significance of the peer social context and the availability of supportive peers and adults (Renn and Arnold, 2003).

II. REVIEW OF RELEVANT LITERATURE

A. Sexual Behavior within the College Context

About half of high school students experience sexual intercourse prior to graduation (CDC, 2013a) and approximately 70% to 80% of college students report sexual activity (ACHA, 2014; Reel and Hellstrom, 2013). College students, however, engage in a number of risky sexual behaviors, including having multiple partners and inconsistent condom use, despite relatively high levels of knowledge regarding the associated risks (Lambert, 2001; Opt et al., 2007). Data from the NCHA reveals that about 30% of college students report having had two or more sexual partners in the previous year; 65% reported not using a condom during every sexual encounter; 36% reported not using a condom during their last sexual encounter; and about 14% reported not using or not knowing if they used a method to prevent pregnancy (ACHA, 2014).

Developmentally, postsecondary education provides a different context to the physiological, psychological, and social changes occurring during adolescence and young adulthood. The college environment provides opportunities for experimentation and exploration, for learning how to form and maintain close relationships with others, and for increased autonomy that creates “an important new context in which young people learn to manage their sexual relationships” (Cooper, 2002). Social interactions, particularly within immediate environments, are significantly salient and play an important role in college adjustment, by creating the culture in which students operate, a culture that is likely to influence their sexual health behaviors. The importance of social interactions to college success is further evidenced by studies that reveal that collective and personal self-esteem, which includes the positive evaluation of social group membership, was related to social and academic adjustment in college

and that improvements in collective and personal self-esteem also predicted improvements in social and academic adjustment as well as in grade point averages (Bettencourt et al., 1999). Relationships with peers, in particular, are an integral part of the college experience (Pascarella and Terenzini, 2005) and many behaviors on college campuses are peer influenced (Renn and Arnold, 2003). Peers (and not family) have been found to be an important source of support and resources and predictive of college adjustment (Dennis et al., 2005).

Social networks in college can influence sexual health behavior by creating shared role concepts among groups of people that guide social interactions and set expectations about how people should act in different roles (Cohen, 2004). The need to maintain these social relationships affects the set of norms that individuals ascribe to and the behaviors that are expected or “normal” for the particular group. However, rather than the perception of ‘others’ in general, the perceptions of close adults and peers have greater impact on behavior among college students (Lynch et al., 2004; Martens et al., 2006; Scholly et al., 2005). Renn and Arnold (2003) also suggest that students are more likely to consider the perceptions of those in close proximity and those with whom they converse with more (Cullum and Harton, 2007).

Young adulthood is also characterized by frequent and open communication about sexual behaviors between friends, which has been associated with motivations towards protective or risky behaviors (Lefkowitz et al., 2004; Rittenour and Booth-Butterfield, 2006). Communication with friends about sex has also been positively related to attitudes, normative beliefs, self-efficacy, and sexual behavioral intentions among adolescents (Busse et al., 2010). The attitudes of peers regarding sex have also been shown to affect sexual health behavior among adolescents and young adults. A permissive attitude about sexual activity among peers increases a young person’s likelihood of engaging in risky sexual behaviors (Kirby, 2002; Potard

et al., 2008). A qualitative study with college aged women revealed that their “perceptions of what was ‘expected’ and ‘the norm’ for sexual activity and relationships shaped their decision-making processes” (Fantasia, 2010). College students may even adjust their behavior to align with what they perceive is the norm among their peers. Therefore, those who have sexually active friends and those who have friends with permissive attitudes towards risky sexual behavior are more likely to engage in risky behaviors as well, particularly when they are motivated by attaining their peers’ respect (Brandhorst et al., 2012; Lefkowitz et al., 2004; Maxwell, 2002; Sieving et al., 2006).

Casual sexual relationships, physically intimate relationships that have no commitment definitions, are also common among college students, with an estimated half of students engaging in these types of relationships (Grello et al., 2006; Owen et al., 2010; Reel and Hellstrom, 2013). This ‘hook up’ culture, which is often facilitated by alcohol (Alleyne, 2008; Cooper, 2002; Grello et al., 2006; Owen et al., 2010), further increases the risks for STI transmission and pregnancy. Planning for safe sex can be difficult in an environment where relationships can be spontaneous and sporadic and often have no set rules or boundaries (Bogle, 2008). The hook up culture on college campuses, the need to fit into the college culture, and the expectation that sexual experience is ‘part of college life’ (Bogle, 2008) may be strong motivators for engaging in sexual activity despite knowledge about the possible negative consequences.

B. Mentoring Relationships within the College Context

Mentoring relationships are described as mutually committed relationships between an individual (the protégé) and an older or more experienced mentor who provides guidance,

instruction and resources to facilitate the growth and development of the protégé (Baker and Maguire, 2005; DuBois and Karcher, 2005). Mentoring is most commonly discussed within the context of youth or career development; the former involves a relationship between a young person and an unrelated adult mentor who helps facilitates the youth's transition into adulthood (Baker and Maguire, 2005) while the latter involves a relationship between an early career professional and an influential individual with advanced knowledge who provides career support to the protégé (Pellegrini and Scandura, 2005).

Academic mentoring, which has increasingly become part of the landscape of educational institutions from elementary to postsecondary schools, focuses on providing academic-related support, especially for those deemed at-risk for failure (Portwood and Ayers, 2005). Mentoring in the postsecondary context has also been defined as a “one-on-one learning relationship” (Jacobi, 1991) and can include a focus on particular aspects of the college experience, such as the transition to college (Bernier et al., 2005); on particular student populations, such as minority and/or first generation college students (Smith, 2007); or on developing specialized knowledge and skills, for example, research skills (Ishiyama, 2007).

Peer mentoring is a variation of the traditional mentoring relationship and involves a mentor and mentee that are at similar levels (in age for example). It has also gained increasing popularity within institutions of higher education. This approach considers the increasing influence of peers in adolescence, especially in the college environment, and is purported to be more contextually appropriate in “meeting the needs and mirroring the values” of the time and place in which sexual behavior occurs (Baker and Maguire, 2005). Additionally, peers' greater accessibility to provide support and the perception that they have experiences that are more current and relevant to the experiences of mentees may make their support and guidance more

useful, especially in the case of health behaviors. A qualitative study by Shotton et al. (2007) found that college students who participated in peer mentoring relationships viewed their mentors as sources of knowledge and experience and as having recently experienced similar situations and successfully negotiated them.

Mentoring relationships can also be characterized as formal or informal. Formal mentoring relationships are developed as a result of a program that links or matches the mentor and mentee and the focus of the guidance provided is prescribed by the program (Rhodes and DuBois, 2008). Informal or natural mentoring relationships, on the other hand, occur spontaneously and can be with either an unrelated (e.g., a pastor) and related (e.g., an uncle) individual (Zimmerman et al., 2005). Informal relationships are formed with people the mentee is likely to come into contact with through the natural course of his/her daily activities (e.g., during class, in campus residence halls, etc.); the mentor is an existing member of the mentee's social network. The majority of mentoring relationships among youth occur in these informal settings (DuBois and Karcher, 2005).

C. Effects of Mentoring on College Outcomes

College-based mentoring relationships have been shown to provide essential social support in a variety of ways. Mentoring relationships have been successful in connecting mentees to the greater university community and resources and in providing emotional and tangible support and guidance on both personal and academic issues – both of which influence adjustment and socialization (Allen et al., 1999; Dennis et al., 2005). An experimental, longitudinal study of first year students found that mentored students had greater satisfaction with university life, which was related to intent to graduate from the university (Sanchez et al.,

2006). College students in mentoring relationships indicated that support was important for their self esteem and helped to “reaffirm confidence that they had the resources and ability to succeed” and that guidance helped in their personal development; for example, in reconciling conflict and developing personal goals (Shotton et al., 2007). Such relationships not only buffered the psychological effects of relationship and support network problems, they also buffered against the negative effects of friends’ influence (Zimmerman et al., 2005).

Several studies also indicate that it is not simply the presence of a mentoring relationship that yields positive outcomes, but rather the quality of the relationship. Researchers have identified several quality related characteristics, including duration of relationship, frequency of contact and role modeling (Liang et al., 2008; Rhodes, 2005; Sanchez et al., 2006; and Shotton et al., 2007). In a study of nursing students, Eller et al. (2014) found similar characteristics to be important in mentoring relationships – including provision of support, mutual respect and trust, open communication and accessibility, role modeling, and setting clear goals and expectations. In a qualitative study of college students Liang et al. (2008) identified trust and mutuality, shared activities, role modeling and empowerment as important characteristics of mentoring relationships. Mentors provided both tangible and emotional empowerment and support to help students address life goals as well as to manage persistent difficulties. In this study, students valued being able to confide in their mentor about personal matters (Liang et al., 2008).

A number of studies have also found positive relationships between mentoring characteristics and outcomes. Sanchez et al. (2006) found that the perceived quality of mentoring relationship was related to satisfaction with and commitment to the institution, which were in turn related to intent to graduate from the university. Frequency of contact,

which is thought to enable relationship growth and closeness, significantly predicted perceived support and satisfaction with support (Berardi, 2012), and academic success (Crisp and Cruz, 2009). Goldner and Mayseless (2009) also found that the mentee's perception of closeness was positively associated with the mentee's perceived contribution of mentoring to well-being, sense of social support from others, and academic functioning. Relationship duration is also a significant predictor of closeness and trust in a mentoring relationship (Deutsch and Spencer, 2009; Nakkula and Harris, 2005). In a study by DuBois and Neville (1997), frequency of contact and relationship duration accounted for two-third of the difference in participants' perception of benefits. However, the characteristics of mentoring relationships assessed by studies as well as measures used by individual studies vary and do not provide insight into which characteristics are most salient in the college context and in relation to sexual health behavior.

D. Effects of Mentoring on Sexual Health Behaviors

Previous studies of mentoring relationships among adolescents have found a relationship between having a mentor and sexual health behaviors. A study by Beier et al. (2000) found that adolescents who reported having an adult mentor were less likely to have more than one sexual partner in the last six months than those without an adult mentor. DuBois and Silverthorn (2005a) found that, in a national sample of adolescents and young adults, having a natural mentor was associated with greater birth control use and condom use, especially among adolescents experiencing greater environmental risk. A study by Hurd and Zimmerman (2010) of African American adolescents found that having a mentor was associated with lower levels of sexual risk behavior – a measure composed of frequency of sexual intercourse within the last year, number of sexual partners within the last year, and frequency

of condom use within the last year. An evaluation of a mentoring intervention focused on sexual health among middle school students in Korea also showed an intervention effect on the sexual knowledge and attitudes of mentees after twelve weeks of group educational sessions and individual mentoring sessions (Shin and Lew, 2010).

Although studies of the effects of mentoring on sexual health behavior in the college context are not available, studies that evaluated the effectiveness of peer health education can provide some insight and lend credibility to the assertion that peer-based interventions can positively influence health behaviors among college students. A study by Mclean (1994) reported that risky sexual behaviors decreased and protective sexual behaviors increased (e.g., discussing current and recent sexual history with their partner) in an intervention that used trained peer-educator mentors (PEM) who led formal health education workshops with first year students and also informally interacted with them at least once per week. A longitudinal study evaluating the effect of formal and informal interactions with peer health educators on risky sexual behavior (e.g., sex under the influence) found positive intervention effects (White et al., 2009). College students may also be more likely to discuss challenges in college with peers because they perceive them as having faced similar challenges recently (Shotton et al., 2007). However, available studies have not examined the effect of peer mentors on sexual health behavior.

E. Theoretical Framework

The processes and mechanisms through which mentoring has been shown to affect behavior change among adolescents and emerging adults are consistent with theoretical frameworks that emphasize social support and positive youth development. For example,

Lerner et al. (2014) proposes that mentoring promotes positive youth development by facilitating each of the C's - competence, confidence, connection, character, caring, and contribution. Rhodes et al. (2006) also propose that mentoring relationships benefit youth by enhancing their social relationships and emotional well-being, by improving their cognitive skills, and by modeling and promoting positive identity development. Mentoring can strengthen the knowledge, skills, and efficacy beliefs of mentees for engaging in particular activities and interactions within a number of domains (academic, health behavior, etc.); these factors are emphasized as influential in established theories of behavior change, including the Integrated Behavior Model (Montano and Kasprzyk, 2008).

Mentors provide instrumental support to mentees, which is consistent with the theories of social support and social capital. In addition to helping youth adapt to different settings (e.g., college), such support has the potential to broaden the young person's social network and lead to new connections and opportunities, thus increasing social capital (Heaney and Israel, 2002; Portes, 2000). Mentoring may also change the norms and behaviors within a college community by increasing social support and connectedness among students. This is consistent with Bronfrenbrenner's (1979) ecological model of human development and Stokol's (1996) social ecological theory, which emphasize the interplay between personal attributes, social contexts, and environmental conditions in influencing individual behavior. Viewed from this broader ecological perspective, having a mentor that can intervene on behalf of the mentee may help to bridge the various domains of a young person's activities. Furthermore, the potential of mentoring interventions to increase positive connections to peers and adults, to increase expectations of support for positive behavior, and to promote the use of positive coping

behaviors are rooted in well-established ties between sexual behavior and social norms (Fantasia, 2011; Potard et al., 2008).

Mentoring may affect sexual health behavior by providing mentees tangible assistance that promotes healthier coping skills and problem solving strategies; by setting norms and expectations for behavior; and by providing models of expected/accepted behavior (Baker and Maguire, 2005). Mentoring relationships can serve as sources of information that could influence sexual health behaviors and result in more-effective use of available services, or help one to avoid stressful or other high risk situations (Cohen, 2004). Additionally, mentoring relationships may help young adults navigate their intimate relationships by providing resources for healthy decisions and by modeling effective decision-making processes to help mentees “develop their own problem-solving and sexual decision-making skills” (Hurd and Zimmerman, 2010).

It is also possible to have mentors who affect mentees negatively by modeling negative or risky behavior, intentionally or unintentionally. However, and especially for natural mentoring relationships, it is likely that mentees select mentors based on admiration of their values and would therefore be less likely to identify a person who engages in risky behaviors as a mentor. For example, in a focus group study of adolescents and emerging adults by Liang et al. (2008), participants were asked to define mentoring and identify someone in their lives that fits that description. They described their mentor as “someone who acts in a way that I would like to act in the future,” and said “I want to emulate my [mentor’s] lifestyle. I see who I want to be in him”. These participants also indicated the need to not idealize mentors but learn from their struggles with negative behaviors.

F. Current Gaps in Knowledge

Despite the wide-spread existence of mentoring programs on university and college campuses throughout the United States (a cursory search of websites of large public institutions, for example, will yield one or more mentoring programs on each campus), estimates of the prevalence of mentoring within institutions of higher education are sparse. A few studies have attempted to determine the frequency of mentoring using a cross-section of institutions and students (Jacobi, 1991). Both reviews of undergraduate mentoring since Jacobi (1991), Crisp and Cruz (2009) and Gershenfeld (2014) found that an adequate description of mentoring relationships within the college/university context is still lacking. Furthermore, despite the greater frequency of natural mentoring relationships among adolescents (DuBois and Silverthorn, 2005a), most studies of mentoring in higher education have focused on formal mentoring programs. Therefore, adequate evidence of the prevalence and characteristics of natural mentoring relationships in the college context is also lacking.

Since mentoring is a widely used and developmentally appropriate intervention model for supporting college students, empirical evidence regarding the effectiveness of mentoring for addressing students' sexual behavioral risk would enable college health and student affairs personnel to advocate for mentoring as a holistic approach for supporting students to persist and succeed in college. However, the lack of adequate information on the effectiveness of mentoring for health behavior change within the college context remains an issue. The published literature also lacks information on whether the effect of mentoring and behavioral risk is influenced by relationship characteristics, including frequency of contact and relationship duration, or other college-specific environmental factors. Additionally, very little is known about the extent to which mentors and mentees engage in conversations about sexual health

topics, particularly in mentoring relationships not focused on sexual health, and how such discussions influence behavior. Therefore, more studies of mentoring among college students, their characteristics, and their effect on sexual behavioral risks are needed.

G. Study Goals and Research Questions

This exploratory study had the following goals: 1) assess the prevalence and characteristics of mentoring relationships among college students; 2) explore the types of mentors reported by study participants and the extent to which mentoring relationship characteristics differ by mentor type; 3) explore the extent to which mentees engage in sexual health discussions with their mentors and whether such discussions and support differ by relationship characteristics and mentor type; and 4) explore the extent to which sexual health behaviors of study participants differ by mentoring relationship characteristics, types of mentors, and presence of sexual health discussions and support.

The following questions were developed as a guide to addressing study goals:

- 1) What proportion of students in the sample report having a mentor?
- 2) How do students with a mentor compare to students without a mentor in their demographic and background characteristics (e.g., gender, race/ethnicity, year in college, etc.)?
- 3) What are the characteristics of mentors (age, race/ethnicity)?
- 4) Are mentors and mentees likely to match in gender and race/ethnicity?
- 5) What types of mentors are reported by respondents (e.g., university faculty, staff or students)?

- 6) Does mentor type differ by student characteristics? (e.g., are senior students more likely to identify a faculty mentor than junior students?)
- 7) What are the characteristics of mentoring relationships (frequency of contact, relationship duration, and mentor support)?
- 8) Do relationship characteristics differ by mentor type? (e.g., do relationships with a faculty mentor have more frequent contact?)
- 9) Do sexual health discussions and support differ by relationship characteristics and mentor types?
- 10) Do sexual health behaviors differ for students with a mentor compared to students without a mentor?
- 11) Do the sexual health behaviors of mentored students differ by mentor type and mentoring relationship characteristics?

III. RESEARCH METHODOLOGY

A. Research Design

This study employed a quantitative cross-sectional design. Participants completed an online questionnaire, which assessed whether respondents were involved in mentoring relationships and the characteristics of those mentoring relationships. The questionnaire also included questions on participants' sexual health behaviors, as well as demographic and other background characteristics. Detailed information on the measures used in the study is provided later in this chapter. Data collection was conducted in October and November of 2014.

B. Sampling, Recruitment and Data Collection

The sampling frame for the study included undergraduate students enrolled at the university in the fall 2014 semester who met the following inclusion criteria:

- had attended the university the study was conducted at for at least one year,
- were not distant/online learners, and
- were 18 years of age or older.

This study aimed at assessing the prevalence of mentoring relationships during the college years and sampling and data collection occurred fairly early in the academic year (fall semester). Therefore, first year students were not expected to have had enough time to have cultivated such relationships and were excluded. Additionally, distant or online learners were excluded because they are not part of the traditional college environment and interact with members of the university community, including faculty, staff and fellow students, in a fundamentally different manner than traditional students.

A random sample of 750 study participants was generated by the university from a total of 10,905 students who met the above criteria. Email addresses of these students were provided to the researcher. The sample size was calculated based on a confidence level of 95%, an error margin of five (+/-5) and an overall population size of 16,660 (fall 2014 enrollment), and doubled to account for expected low response rates among college students. The survey was made available online and only in English, using Qualtrics as the online survey administration platform. Upon approval from the Institutional Review Board (IRB), students in the sample were sent an initial invitation email message to complete the online survey. This was followed by three reminder emails sent one week apart. To protect participants' privacy, invitation emails were sent to participants individually and contained a unique link to the consent information and survey for each potential participant. Confidentiality was maintained at all stages of the study. All elements of informed consent were covered in the written instructions and study information provided with the survey. Participants were also provided \$5 Starbucks e-gift cards for their participation.

C. Measurement

The measures used in this study, which are described below, were adapted from the mentoring literature and, where possible, from previously used and validated instruments in the mentoring and sexual health behavior fields.

i. Presence of Mentoring Relationships

Similar to previous studies of mentoring (Berardi, 2012; Rhodes et al., 1994; Sanchez et al., 2008), this study used a single item/question to assess whether the respondent

was involved in a mentoring relationship. However, the focus of this study was on mentoring relationships among college students and, therefore, it was important to identify and account for mentoring relationships that may exist both within and outside of the university context (i.e. those within the respondent's university *and* non-university social networks). Therefore, the presence of a mentoring relationship was assessed separately for mentoring relationship with a member of the university community (e.g., staff, faculty, or student; henceforth labeled University mentoring relationship) and a mentoring relationship with someone outside of the university (e.g., a pastor, a physician; henceforth labeled Community mentoring relationship).

Specifically, to identify University mentoring relationships, study participants were asked *"Do you currently have a person in your life, who is a member of the University community (faculty, staff or student), who you consider a mentor?"* Similarly, to identify Community mentoring relationships, study participants were asked, *"Do you currently have a person in your life, who is NOT a member of the University community (not a University faculty, staff or student), who you consider a mentor?"* Based on previously published definitions of mentoring relationships (Allen et al., 1999; Hurd and Zimmerman, 2010), a mentor was described to respondents as *"someone you can go to for support and guidance or if you need to make an important decision or someone who inspires you to do your best"*. This provides a study definition of a mentoring relationship as a one-on-one relationship with someone who provides support, guidance and role modeling (DuBois and Silverthorn, 2005a).

Respondents were expected to have more than one person they consider a mentor in each environment (university and community) and therefore, they were asked to select the most influential mentor and respond to questions that assessed the characteristics of that mentoring relationship. Additionally, as a subset of respondents was expected to report both a

University and a Community mentor, each of whom are likely to affect sexual health behaviors differently, responses to the two mentoring relationship questions were used to create a Mentoring Relationship variable that categorized students into distinct, non-overlapping groups – those with no mentor (0), those with a University mentor only (1), those with a Community mentor only (2), and those with both types of mentors (3). See Table I.

To assess the characteristics of mentoring relationships within each of these environments (University and Community), responses to the mentoring questions were also used to create categorical mentoring relationship variables for each environment: Community mentoring relationship (0 = no, 1 = yes) and University mentoring relationship (0=no, 1=yes).

TABLE I
DEFINITIONS OF MENTORING RELATIONSHIPS

| Mentoring Relationship Variable | Definition |
|--|---|
| Mentoring Relationship | <i>None = 0</i> <i>University Mentor Only = 1</i> <i>Community Mentor Only = 2</i> <i>Both Mentors = 3</i> |
| University Mentoring Relationship | <i>No = 0</i> <i>Yes = 1</i> |
| Community Mentoring Relationship | <i>No = 0</i> <i>Yes = 1</i> |

ii. **Demographic Characteristics of Mentors**

Participants were asked to report the age, gender, and ethnic/racial identity of each mentor. Additionally, participants were asked about the type of mentor they had. For University mentors, response options were faculty, staff, advanced undergraduate student, residence advisor, graduate student, and other. For Community mentors, the response options were relative, neighbor, adult friend, friend, teacher, physician, clergy/pastor, and other. Due to small response counts in some categories, mentor type responses were collapsed into fewer, broader categories. See Table II for definitions of these variables.

TABLE II
DEFINITIONS OF MENTOR CHARACTERISTICS

| Mentor Characteristic Variables | Definition |
|--|--|
| Mentor Age | <i>Years (continuous variable)</i> |
| Mentor Gender | <i>Male = 0 Female = 1</i> |
| Mentor Race/Ethnicity | <i>Black = 1 Asian = 2 Latino/Hispanic = 3 White = 4 Other = 5</i> |
| University Mentor Type | <i>Faculty = 1 Staff = 2 Student = 3</i> |
| Community Mentor Type | <i>Family Member = 1 Non-Familial Adult = 2 Peer = 3</i> |

iii. **Mentoring Relationship Characteristics**

This study also measured mentoring relationship characteristics, including relationship duration, frequency of contact and perceived mentor support. Previous research established that frequency of contact, duration of relationship and type of support provided are important characteristics of effective mentoring relationships (Berardi, 2012; Crisp and Cruz, 2009; Deutsch and Spencer, 2009; DuBois and Neville, 1997; Eller et al., 2014; Goldner and Mayseless, 2009; Liang et al., 2008; Nakkula and Harris, 2005; Rhodes, 2005; Sanchez et al., 2006; and Shotton et al., 2007). Students were asked to report the characteristics of each mentoring relationship (i.e. if a student reported having two mentoring relationships, they reported on the characteristics of each relationship). Details about each variable and their definitions are provided below and in Table III.

a. **Relationship Type**

Relationship type was defined as either formal or informal. Formal mentoring relationships were defined as relationships formed through a program that links mentors and mentees and has a prescribed set of activities (Rhodes and DuBois, 2008) and informal, or natural, mentoring relationships were defined as relationships that occur spontaneously with a mentor that is an existing member of the mentee's social network (DuBois and Silvethorn, 2005b; Zimmerman et al., 2005).

To determine if the relationship was formed as part of a formal mentoring program or occurred naturally, participants were asked to report how they met their mentor(s). For University mentoring relationships, respondents were asked to select from the following response options – while participating in a university-sponsored mentoring program, while seeking academic guidance/advising, while seeking professional assistance (e.g., career

TABLE III
DEFINITIONS OF MENTORING RELATIONSHIP CHARACTERISTICS

| Relationship Characteristic Variables | | Definition |
|--|--|--|
| Relationship Type | | <i>Informal = 0</i> <i>Formal = 1</i> |
| Relationship Duration | | <i>Months (continuous variable)</i> |
| Frequency of Contact | | <i>Daily = 1</i> <i>2-3 times a week = 2</i> <i>Once a week = 3</i> <i>2-3 times a month = 4</i> <i>Once a month = 5</i> <i>Other = 6</i> |
| Mentor Support (9-Item Mentor Function Scale) | | <i>Strongly Disagree = 1</i> <i>Disagree = 2</i> <i>Neutral = 3</i> <i>Agree = 4</i> <i>Strongly Agree = 5</i> <i>(continuous variable)</i> <i>Score range = 9 (min) – 45(max) for full scale & 3 (min) – 15 (max) for subscales</i> |
| Academic Support (Subscale) | My mentor takes a personal interest in my education/academics | |
| | My mentor helps me coordinate academic goals | |
| | My mentor has devoted special time and consideration to my education | |
| Psychosocial Support (Subscale) | I share personal problems with my mentor | |
| | I exchange confidences with my mentor | |
| | I consider my mentor to be a friend | |
| Role Modeling (Subscale) | I try to model my behavior after my mentor | |
| | I admire my mentor's ability to motivate others | |
| | I respect my mentor's ability to counsel others | |

planning), in class, in a residence hall, at a social event, at the gym, at a non-university related event/program, or other (please specify). For Community mentoring relationships, participants responded to an open-ended question about how they met their mentor. These responses were then coded by the researcher into a dichotomous variable – informal (0) or formal (1).

b. Relationship Duration

Duration is defined as the length of time that the mentor and mentee have known each other and is an important construct to capture the benefits of mentoring which have been shown to accrue over time (Berardi, 2012; DuBois and Silverthorn, 2005b). Participants were asked an open-ended question about the length of time they have been in the mentoring relationship. Responses were then converted to number of months for uniformity and analyzed as a continuous variable.

c. Frequency of Contact

Participants were asked to indicate how often they communicated with their mentor (daily, 2-3 times per week, once per week, 2-3 times per month, once per month, and other). The form of contact was not specified and could encompass any form of contact (email, phone, text messaging, in-person, etc.). Frequency of contact was analyzed as a categorical variable.

d. Mentor Support

The Mentoring Functions Scale (MFS-9), originally developed by Scandura and Raggins (1993) and later modified by Castro and Scandura (2004), was adapted to measure the mentee's perception of support provided by the mentor. The coefficient alphas for subscale scores ranged from .71 to .88 (Pellegrini and Scandura, 2005). The scale consisted of nine questions in three sub-scales; academic support (e.g., "My mentor takes a personal interest in

my education”), psychosocial support (e.g., “I consider my mentor to be a friend”), and role modeling (e.g., “I try to model my behavior after my mentor”). A five-point response scale was used, ranging from 1 = *strongly disagree* to 5 = *strongly agree*. Responses for all questions were summed to yield a total score for Mentor Support. Additionally, responses to questions in each subscale were also summed to yield subscale scores. These variables were analyzed as continuous variables.

TABLE IV
DEFINITIONS OF SEXUAL HEALTH DISCUSSIONS AND SUPPORT

| Sexual Health Discussion and Support Variables | Definition |
|--|---------------------------------|
| Do you discuss sexual health issues/concerns with mentor? | <i>No = 0</i> <i>Yes = 1</i> |
| Do you discuss expectations for sexual health behavior with mentor? | <i>No=0</i> <i>Yes=1</i> |
| Has mentor ever discussed what he/she values in terms of sexual health behavior? | <i>No=0</i> <i>Yes=1</i> |
| Has mentor ever provided resources specific to sexual health? | <i>No=0</i> <i>Yes=1</i> |

iv. Prevalence of Sexual Health Discussions and Support

No prior assessments of sexual health discussions and support were found in the mentoring literature; therefore, four questions were developed for this purpose. Respondents were asked to report if: 1) they discussed sexual health issues/concerns with their mentors, 2) they discussed expectations for sexual health behavior with their mentors, 3) their mentors had

ever discussed sexual health behaviors he/she values and supports, and 4) their mentors had ever provided them with resources specific to sexual health behavior (e.g., where to get a condom). Response options for these items were no (0) or yes (1) and each question was analyzed separately as a dichotomous variable. See Table IV.

v. Respondent Sexual Health Behaviors

Questions assessing respondent sexual health behaviors were adapted from the National College Health Assessment survey (ACHA, 2014) or developed based on the literature. See Table V for the definitions of variables.

Lifetime sexual activity (Ever Sex) was assessed by asking whether the respondent has ever had sex and was analyzed as a dichotomous variable (yes/no). Sex was not restricted to a specific sexual behavior. The goal was to capture behaviors in relation to all forms of sex, including vaginal, oral and anal sex, which all carry risk for STI transmission (Edwards and Carne, 1998a; 1998b). All other sexual behaviors were assessed among those reporting prior sexual experience, unless indicated. Respondents were asked to report the number of sexual partners they have had in the twelve months preceding the survey using seven response options: none, 1, 2, 3, 4, 5 or 6 or more. This was re-coded into 3 categories (no partners, 1 partner, and 2+ partners) and analyzed as a categorical variable.

To assess participation in casual sex, respondents were asked about the last person with whom they had a sexual relationship or encounter. Specifically, respondents were asked to indicate if the last person they had sex with was a person they had just met, someone they knew well but was not a steady partner, or a boyfriend/girlfriend. The first two responses were coded as 'casual partner' and the last response was coded as 'steady partner.' The variable was

analyzed as categorical data. This definition of casual partners was based on the literature on college hook up behaviors which defines a casual partner as “someone whom you were not dating or in a relationship with at the time of the sexual interaction” (Fielder and Carey, 2010).

TABLE V
DEFINITIONS OF SEXUAL HEALTH BEHAVIORS

| Sexual Health Behavior Variables | Definitions |
|--|---|
| Ever Had Sex [<i>Ever Sex</i>] | <i>No = 0</i> <i>Yes = 1</i> |
| Number of sexual partners in the preceding 12 months [<i>Number of Sexual Partners</i>] | <i>No partners = 0</i> <i>1 partner = 1</i> <i>2 or more partners = 2</i> |
| Relationship with last sexual partner [<i>Last Sexual Partner Status</i>] | <i>Steady Partner = 0</i> <i>Casual Partner = 1</i> |
| Condom use frequency in preceding 30 days [<i>Condom Use Frequency</i>] | <i>Mostly/Always = 0</i> <i>Sometimes = 1</i> <i>Never/Rarely = 2</i> |
| Condom use last time [<i>Condom Use Last Time</i>] | <i>No = 0</i> <i>Yes = 1</i> |
| Testing for STI/HIV in last year [<i>STI/HIV Testing</i>] | <i>No = 0</i> <i>Yes = 1</i> |

Condom use behavior was assessed using two items: frequency of condom use in preceding 30 days on a five-item response scale (always, mostly, sometimes, rarely and never) and condom use at last sexual encounter (yes or no). Condom use frequency was re-coded into three categories – Always/Mostly, Sometimes, and Rarely/Never – and the variable was

analyzed as categorical data. Condom use at last sexual encounter was also analyzed as categorical data. HIV/STI testing was assessed by asking respondents whether they had been tested for STIs in the twelve months preceding the survey. Response options were yes or no, yielding a dichotomous variable.

vi. Respondent Demographic and Background Characteristics

Respondents were asked to report their age, gender, and racial/ethnic identity, as well as their year in college, their residence, and their participation in campus student organizations and community service. Each of these variables is described below and their definitions are presented in Table VI.

Year in school refers to the academic ranking of the participant. Since the survey was not distributed to first year students, respondents were asked to indicate whether they were in their second year, third year or fourth year at the university. Residence is defined as living at home with parents/family, living on campus, or living off campus but not with parents/family. Student organization participation was assessed by asking respondents whether he/she is a member of a student organization on campus and had a yes/no response scale. Similarly, community service was assessed by asking respondents whether he/she engages in community service or volunteers; this item also used a yes/no response scale.

D. Statistical Analysis

Descriptive statistics (means and frequencies) were used to describe the demographic and background characteristics of study participants; the prevalence and characteristics of mentoring relationships in the sample; and the sexual health behaviors of respondents. More

specifically, frequency distributions and proportions were used to describe categorical variables, such as gender, race/ethnicity, having a mentor, mentor type, and frequency of contact. Frequency distributions were also used to describe the sexual health behaviors of study participants, each was measured as a categorical variables. Continuous variables, such as age, relationship duration, and mentor support were described using means and standard deviations (SD). Due to the small sample size, some analyses used Fisher's exact test instead of a chi-squared test, which provides a more rigorous test of association.

TABLE VI
DEFINITIONS OF MENTEE DEMOGRAPHIC AND BACKGROUND CHARACTERISTICS

| Demographic and Background Variables | Definitions |
|---|---|
| Age | <i>Years (continuous variable)</i> |
| Gender | <i>Female = 1 Male = 2</i> |
| Race/Ethnicity | <i>Black = 1 Asian = 2 Latino/Hispanic = 3 White = 4 Other = 5</i> |
| Year in College | <i>Sophomore = 1 Junior = 2 Senior = 3</i> |
| Residence | <i>On Campus = 1 At Home (with family) = 2 Off Campus (not with family) = 3</i> |
| Student Organization Participation | <i>No = 0 Yes = 1</i> |
| Community Service | <i>No = 0 Yes = 1</i> |

Chi-squared tests were used to compare categorical student demographic and background variables (gender, race/ethnicity, year in college, residence, and student organization and community service participation) among students with a University mentor, a Community mentor, both types of mentors, and no mentor. Fisher's exact test was used when the chi-squared analysis indicated that one or more cross-tabulation cells had an expected count of less than five. In such cases, the p-value for the associated Fisher's exact test is reported. Chi-squared and Fisher's exact tests were also used to compare categorical demographic characteristics of University and Community mentors (gender, race/ethnicity, and type) as well as categorical relationship characteristics (frequency of contact and sexual health discussions) among University and Community mentoring relationships. In addition, chi-squared and Fisher's exact tests were used to assess if students and mentors were matched by gender and race/ethnicity and to assess if student demographic and background characteristics and mentoring relationship characteristics (frequency of contact and sexual health discussion) differed by mentor type. Finally, chi-squared and Fisher's exact tests were used to examine associations between respondent sexual health behaviors and categorical mentor (mentor type) and mentoring relationship characteristics (frequency of contact and sexual health discussion).

Mean differences in continuous variables related to student demographics (age) and mentoring relationship characteristics (mentor support scores and relationship duration) among students reporting a University mentor, a Community mentor, both mentor types, or no mentor were compared using one-way analysis of variance (ANOVA). Comparisons of relationship duration and mentor support by mentor type (e.g., faculty, staff, and student mentors) also used ANOVA. Additionally, ANOVA was used to explore the association between

sexual health behaviors variables with more than two response categories (number of sexual partners) and continuous mentoring relationship characteristic variables (mentor support and relationship duration).

Student's t-tests were used to compare the means of continuous mentor characteristics (age) among University and Community mentors, as well as to compare the means of continuous mentoring relationships characteristics (mentor support and relationship duration) by presence of sexual health discussions. Additionally, t-tests were used to assess the association between sexual health behaviors with two response categories (ever sex, last sexual partner status, condom use frequency, condom use last time, and STI/HIV testing) and continuous mentoring relationship characteristics.

IV. RESULTS

A. Characteristics of Students in the Sample

One hundred and thirty-seven (137) students completed the survey, yielding an 18% response rate. The age of participants ranged from 19 to 29 years with a mean age of 21 years. As Table VII shows, participants were predominantly female (72%) and heterosexual (95%); 42% were White, 46% lived at home with their parents, 45% were seniors, 53% participated in campus student organizations, and 61% engaged in community service.

TABLE VII
DEMOGRAPHIC AND BACKGROUND CHARACTERISTICS
OF STUDENTS IN THE SAMPLE (N=137)

| | | | |
|-----------------------------|----------------|--------------------------|-----|
| Age Mean (sd) | 21 years (1.9) | | |
| Gender | | Race/Ethnicity | |
| Male | 27% | White | 42% |
| Female | 72% | Asian | 27% |
| Other | 1% | Latino | 23% |
| Sexual Orientation | | Black | 6% |
| Heterosexual | 95% | Other | 2% |
| Bisexual | 4% | Residence | |
| Other | 1% | On Campus | 21% |
| Year in College | | Off Campus | 27% |
| Sophomore | 32% | At home w/parents | 46% |
| Junior | 23% | Other | 6% |
| Senior | 45% | | |
| Student Organization | | Community Service | |
| No | 46% | No | 39% |
| Yes | 54% | Yes | 61% |

B. Prevalence of Mentoring Relationships

A significant proportion of students who participated in the study (85%) reported having at least one mentor in their life; 9% reported having a University mentor only, 42% reported having a Community mentor only, and 34% reported having both a University and a Community mentor; 15% reported having no mentor (Figure 1).

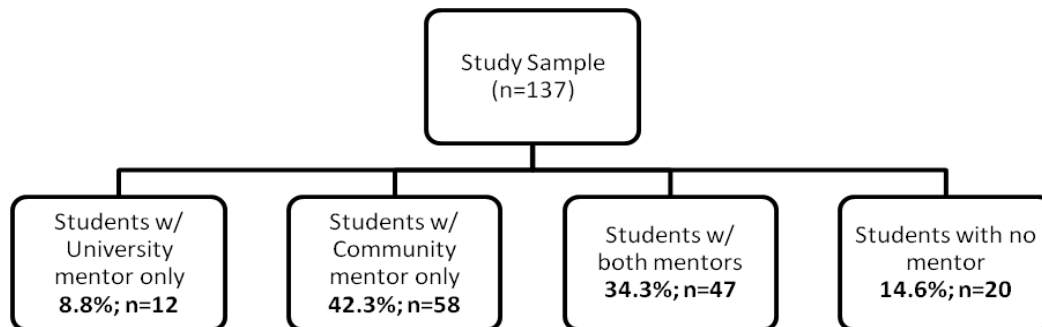


Figure 1: Presence of mentoring relationships among study participants

These results also indicate that there were a total of 164 mentoring relationships among study participants – 59 (36%) of these were University mentoring relationships (relationships with a University mentor) and 105 (64%) were Community mentoring relationships (relationships with a Community mentor).

C. Characteristics of Students with and without a Mentor

Table VIII displays the demographic characteristics of students (mentees) who reported a mentor and those who reported no mentor. Students with a University mentor only were more likely to participate in student organizations and community service than students with a Community mentor, both types of mentors, or no mentor. More specifically, 100% of students with a University mentor only participated in a student organization compared to 43.1% of students with a Community mentor only, 66% of students with both types of mentors, and 30% of students with no mentor. Similarly, 83.3% of students with a University mentor only compared to 55.2% of students with a Community mentor only, 74.5% of students with both types of mentors, and 35% of students with no mentors participated in community service.

Additionally, students who had a University mentor only were less likely to be juniors and more likely to live on campus than students in the other groups. Eight percent (8.3%) of students with a University mentor only were juniors; in comparison 20.0% of students with no mentor, 20.7% of students with a Community mentor, and 29.8% of students with both types of mentors were juniors. Thirty-three percent (33.3%) of students with a University mentor only also lived on campus compared to 19.0% of students with a Community mentor only, 25.5% of students with both types of mentors, and 10.0% of students with no mentors.

D. Demographic Characteristics of the Mentors

Table IX provides a description and comparison of the demographic characteristics of University and Community mentors (as reported by study participants). University mentors

TABLE VIII
DEMOGRAPHIC AND BACKGROUND CHARACTERISTICS OF STUDENTS WITH AND WITHOUT
A MENTOR (% OF COLUMN)

| | | NO Mentor (n=20) | University Mentor ONLY (n=12) | Community Mentor ONLY (n=58) | BOTH Mentors (n=47) | P |
|-----------------------------|--------------------|----------------------------|---|--|---|--------------------|
| Age | Mean (sd) | 20.80 (1.4) | 21.73 (2.4) | 21.47 (2.2) | 20.54 (1.3) | 0.049 ^a |
| Gender | | | | | | |
| | Male | 20.0% | 16.7% | 31.6% | 27.7% | 0.798 ^b |
| | Female | 80.0% | 83.3% | 68.4% | 72.3% | |
| Race/Ethnicity | | | | | | |
| | White | 30.0% | 50.0% | 43.1% | 44.7% | 0.336 ^b |
| | Asian | 25.0% | 16.7% | 25.9% | 31.9% | |
| | Latino | 35.0% | 16.7% | 27.6% | 12.8% | |
| | Black/AA | 10.0% | 8.3% | 3.4% | 6.4% | |
| | Other ^c | 0.0% | 8.3% | 0.0% | 4.3% | |
| Year in College | | | | | | |
| | Sophomore | 35.0% | 41.7% | 25.9% | 36.2% | 0.444 ^b |
| | Junior | 20.0% | 8.3% | 20.7% | 29.8% | |
| | Senior | 45.0% | 50.0% | 53.4% | 34.0% | |
| Residence | | | | | | |
| | On Campus | 10.0% | 33.3% | 19.0% | 25.5% | 0.453 ^b |
| | Off Campus | 25.0% | 16.7% | 22.4% | 36.2% | |
| | At Home | 60.0% | 50.0% | 50.0% | 34.0% | |
| | Other | 5.0% | 0.0% | 8.6% | 4.3% | |
| Student Organization | | | | | | |
| | Yes | 30.0% | 100.0% | 43.1% | 66.0% | 0.000 ^b |
| | No | 70.0% | 0.0% | 56.9% | 34.0% | |
| Community Service | | | | | | |
| | Yes | 35.0% | 83.3% | 55.2% | 74.5% | 0.006 ^b |
| | No | 65.0% | 16.7% | 44.8% | 25.5% | |

^a One-way ANOVA p-values.

^b Fisher's exact test p-values.

^c American Indian/Native American or more than one racial/ethnic identity.

were younger than Community mentors; the mean age for University mentors was 29.6 years, while that for Community mentors was 35.3 years. A higher proportion of Community mentors were female than University mentors (59% versus 47%). A greater proportion of Community mentors were Latino compared to University mentors (19% versus 12%) and a greater proportion of University mentors were Black compared to Community mentors (12% versus 6%).

TABLE IX
DEMOGRAPHIC CHARACTERISTICS OF UNIVERSITY AND
COMMUNITY MENTORS (% OF COLUMN)

| | | University Mentor (N=59) | Community Mentor (N=105) | P |
|-----------------------|--------------------|-----------------------------|-----------------------------|--------------------|
| Age | Mean (sd) | 29.6 (10.2) | 35.3 (13.4) | 0.007 ^a |
| Gender | | | | |
| | Male | 53% | 41% | 0.190 ^b |
| | Female | 47% | 59% | |
| Race/Ethnicity | | | | |
| | White | 51% | 48% | 0.385 ^c |
| | Asian | 24% | 25% | |
| | Latino | 12% | 19% | |
| | Black/AA | 12% | 6% | |
| | Other ^d | 1% | 2% | |

Data on mentors was reported by students

^a t-test p-value.

^b Chi-squared p-value.

^c Fisher's exact test p-value.

^d American Indian/Native American or more than one racial/ethnic identity.

i. **Matching by Gender between Mentors and Mentees**

When examining the degree to which mentees and mentors were of the same gender, it was found that matching by gender was more common among Community mentoring relationships but not among University mentoring relationships. As Table X shows, 66.7% of male students had male University mentors (male-male matches) and 52.0% of female students had female University mentors (female-female matches). In comparison, among Community mentoring relationships, 72.4% of male students had male mentors and 70.8% of female students had female mentors.

TABLE X
MENTOR AND MENTEE GENDER MATCHES IN
UNIVERSITY AND COMMUNITY MENTORING RELATIONSHIPS (% OF COLUMN)

| University Mentoring Relationships (n=59) | | | | |
|---|--------|----------------|------------------|--------|
| | | Mentee Gender | | p (X²) |
| | | Male (n=15) | Female (n=44) | |
| Mentor Gender | Male | 66.7% | 47.7% | 0.205 |
| | Female | 33.3% | 52.3% | |
| Community Mentoring Relationships (n=105) | | | | |
| | | Mentee Gender | | p (X²) |
| | | Male (n=29) | Female (n=72) | |
| Mentor Gender | Male | 72.4% | 29.2% | 0.000 |
| | Female | 22.6% | 70.8% | |

ii. **Matching by Race/Ethnicity between Mentors and Mentees**

For both University and Community mentoring relationships, mentors and mentees were more likely to be matched by race/ethnicity. Due to small sample sizes, the original five categories of the race/ethnicity variable was collapsed into four categories: White, Asian, Latino and Other (which included individuals who identified as African-American, American Indian/Native American, or more than one of race/ethnicity categories). See Table XI.

TABLE XI
MENTOR AND MENTEE RACE/ETHNICITY MATCHES IN UNIVERSITY AND COMMUNITY MENTORING RELATIONSHIPS (%OF COLUMN)

| University Mentoring Relationship (n=59) | | | | | |
|---|-----------------------|-----------------|------------------|-----------------------------|----------------|
| Mentor Race/Ethnicity | Mentee Race/Ethnicity | | | | p ^b |
| | White (n=27) | Asian (n=17) | Latino (n=8) | Other ^a (n=7) | |
| White | 74.1% | 29.4% | 37.5% | 42.9% | 0.000 |
| Asian | 3.7% | 64.7% | 12.5% | 14.3% | |
| Latino | 11.1% | 0.0% | 50.0% | 0.0% | |
| Other ^a | 11.1% | 5.9% | 0.0% | 42.9% | |
| Community Mentoring Relationships (n=105) | | | | | |
| Mentor Race/Ethnicity | Mentee Race/Ethnicity | | | | p ^b |
| | White (n=26) | Asian (n=30) | Latino (n=22) | Other ^a (n=7) | |
| White | 89.1% | 10.0% | 18.2% | 42.9% | 0.000 |
| Asian | 4.3% | 80.0% | 0.0% | 0.0% | |
| Latino | 4.3% | 3.3% | 77.3% | 0.0% | |
| Other ^a | 2.2% | 6.7% | 4.5% | 57.1% | |

^a Black/African-American, American Indian/Native American, or more than one racial/ethnic identity.

^b Fisher's exact test p-value.

As Table XI shows, students were more likely to be matched with a University mentor from their racial/ethnic group, with the exception of students who identified as 'Other'. Seventy-four percent (74%) of White students reported a White mentor and 64.7% of Asian students reported an Asian mentor; while 50.0% of Latino students reported a Latino mentor, 37.5% reported a White mentor. Additionally, equal proportions of students identified as 'Other', however, reported an 'Other' mentor or a White mentor. Similarly, among Community mentoring relationships, a great proportion of students reported a mentor of a similar race/ethnicity. For example, 89.1% of White students reported a White mentor and 80.0% of Asian students reported an Asian mentor.

E. Types of Mentors in University and Community Mentoring Relationships

About one-third (32.2%) of University mentoring relationships were with university faculty members, 13.6% were with university staff members and 54.2% were with other students at the university (Figure 2). Among Community mentoring relationships, 50.0% were with family members (e.g., mother, father, uncle, aunt, etc.), 28.8% were with non-familial adults (e.g., pastor, physician, neighbor, etc.), and 21.2% were with peers (e.g., same-sex friend, opposite-sex friend, a student at another college).

An examination of the extent to which mentor types differed by mentee characteristics among University and Community mentoring relationships is presented below.

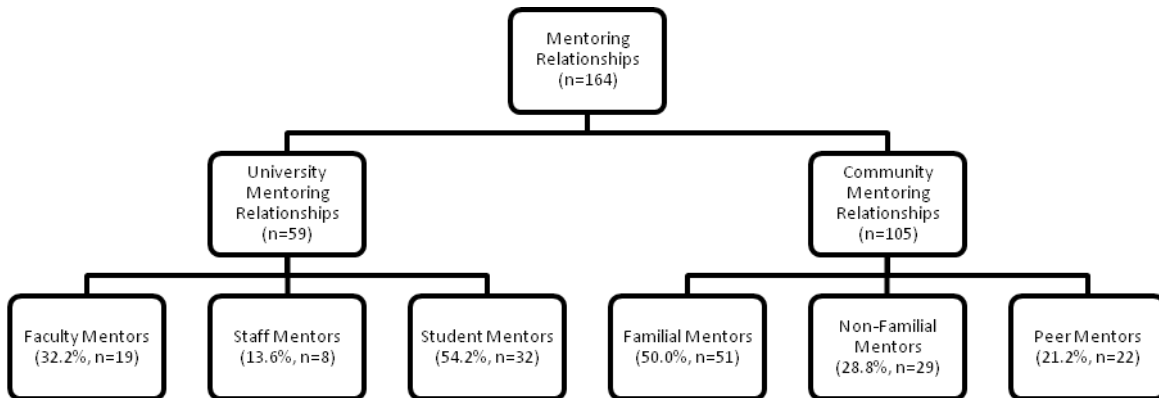


Figure 2: Mentor types in University and Community mentoring relationships

i. **Mentor Type and Mentee Gender**

Table XII shows that, in University mentoring relationships, male students were more likely than female students to have a faculty mentor (46.7% of male students had a faculty mentor compared to 27.3% of female students) and female students were more likely than male students to have a staff mentor (15.9% versus 6.7%). In comparison, among Community mentoring relationships, the differences in proportions of male and female students with familial, non-familial and peer mentors did not differ substantially; both male and female students were more likely to have a familial mentor than a non-familial or peer mentor.

Table XIII shows that male students were more likely to report a male faculty mentor than a female faculty mentor (83.7% versus 14.3%) and more likely to report a male staff mentor than a female staff mentor (100.0% versus 0.0%). Female students, however, were also more likely to report a male faculty or staff mentor than a female faculty or staff mentor (58.3%

versus 41.7%). On the other hand, both male and female students were more likely to report a female student mentor than a male student mentor. These findings are also consistent with findings in the analysis of gender matching reported earlier in this section. It should, however, also be noted that a substantially greater proportion of faculty mentors were male and a substantially greater proportion of study participants were female.

TABLE XII
MENTOR TYPE BY MENTEE GENDER IN UNIVERSITY AND COMMUNITY MENTORING
RELATIONSHIPS (% OF COLUMN)

| University Mentoring Relationships ^a | | | |
|---|---------------|---------------|----------------|
| | Mentee Gender | | p ^c |
| Mentor Type | Male (n=14) | Female (n=32) | |
| Faculty | 46.7% | 27.3% | 0.504 |
| Staff | 6.7% | 15.9% | |
| Student | 46.7% | 56.8% | |
| Community Mentoring Relationships ^b | | | |
| | Mentee Gender | | p ^c |
| Mentor Type | Male (n=30) | Female (n=73) | |
| Familial | 40.0% | 53.4% | 0.452 |
| Non-Familial | 33.3% | 27.4% | |
| Peer | 26.7% | 19.2% | |

^a Although the total number of University mentoring relationships is 59, the column totals reflect the number of relationship with data on both gender and mentor type and thus may add up to less than 50.

^b Although total number of Community mentoring relationships is 105, the column totals reflect the number of relationships with data on both gender and mentor type, and thus may add up to less than 105.

^c Chi-squared test p-value.

TABLE XIII
MENTOR AND MENTEE GENDER MATCHES BY MENTOR TYPE
IN UNIVERSITY MENTORING RELATIONSHIPS (% OF COLUMN)

| Mentor Type | Mentor Gender | Mentee Gender^a | | p^b |
|--------------------|----------------------|----------------------------------|---------------|----------------------|
| | | Male (n=14) | Female (n=32) | |
| Faculty | Male (n=13) | 83.7% | 58.3% | 0.333 |
| | Female (n=6) | 14.3% | 41.7% | |
| Staff | Male (n=5) | 100.0% | 57.1% | 1.000 |
| | Female (n=3) | 0.0% | 42.9% | |
| Student | Male (n=13) | 42.9% | 40.0% | 1.000 |
| | Female (n=19) | 57.1% | 60.0% | |

^a Although total number of University mentoring relationships is 59, the column totals reflect the number of relationships with data on both gender and mentor type, and thus may add up to less than 59.

^b Fisher's exact test p-values.

Table XIV shows gender matching between students and familial and non-familial mentors – male students were more likely than female students to report a male familial mentor (75.0% versus 26.3%), while female students were more likely than male students to report a female familial mentor (73.7% versus 25.0%). Similarly, male students were more likely than female students to have a male non-familial mentor while female students were more likely than male students to report a female non-familial mentor. Additionally, while female students were also more likely to report a female student mentor than a male student mentor, male students were, however, just as likely to have a male student mentor as a female student mentor.

TABLE XIV
MENTOR AND MENTEE GENDER MATCHES BY MENTOR TYPE
IN COMMUNITY MENTORING RELATIONSHIPS (% OF COLUMN)

| Mentor Type | Mentor Gender | Mentee Gender^a | | p^b |
|--------------------|----------------------|----------------------------------|---------------|----------------------|
| | | Male (n=30) | Female (n=73) | |
| Familial | Male (n=19) | 75.0% | 26.3% | 0.005 |
| | Female (n=32) | 25.0% | 73.7% | |
| Non-Familial | Male (n=14) | 88.9% | 30.0% | 0.005 |
| | Female (n=15) | 11.1% | 70.0% | |
| Peer | Male (n=9) | 50.0% | 35.7% | 0.662 |
| | Female (n=13) | 50.0% | 64.3% | |

^a Although total number of Community mentoring relationships is 105, the column totals reflect the number of relationships with data on both gender and mentor type, and thus may add up to less than 105.

^b Fisher's exact test p-values.

ii. Mentor Type and Mentee Race/Ethnicity

Table XV shows that students in each racial/ethnic group were more likely to report that their University mentor was a student mentor than a staff or faculty mentor (51.9% of White students, 58.8% of Asian students, 62.5% of Latino students, and 42.9% of 'Other' students). Students in each racial/ethnic group were also more likely to report that their Community mentor was a familial mentor than a non-familial or peer mentor (43.5% of White students, 55.2% of Asian students, 59.1% of Latino students, and 42.9% of Other students).

iii. Mentor Type and Mentee Year in College

Table XVI shows that both sophomores and juniors in University mentoring relationships were more likely to report a student mentor (54.6% and 73.3% respectively) than

a faculty or staff mentor. Seniors, however, were slightly more likely to report a faculty mentor than a student mentor (45.5% versus 40.9%). On the other hand, sophomores, juniors and seniors in Community mentoring relationships were more likely to report a familial mentor than a non-familial or peer mentor.

TABLE XV
MENTOR TYPE BY MENTEE RACE/ETHNICITY IN UNIVERSITY AND COMMUNITY
MENTORING RELATIONSHIPS (% OF COLUMN)

| University Mentoring Relationships ^a | | | | | |
|---|-----------------------|--------------|---------------|-------------|----------------|
| Mentor Type | Mentee Race/Ethnicity | | | | p ^c |
| | White (n=31) | Asian (n=13) | Latino (n=7) | Other (n=7) | |
| Faculty | 33.3% | 29.4% | 35.5% | 28.6% | 0.898 |
| Staff | 14.8% | 11.8% | 0.0% | 28.6% | |
| Student | 51.9% | 58.8% | 62.5% | 42.9% | |
| Community Mentoring Relationships ^b | | | | | |
| Mentor Type | Mentee Race/Ethnicity | | | | p ^c |
| | White (n=46) | Asian (n=29) | Latino (n=22) | Other (n=7) | |
| Familial | 43.5% | 55.2% | 59.1% | 42.9% | 0.776 |
| Non-Familial | 32.6% | 20.7% | 27.3% | 42.9% | |
| Peer | 23.9% | 24.1% | 13.6% | 14.3% | |

^a Although total number of University mentoring relationships is 59, the column totals reflect the number of relationships with data on both race/ethnicity and mentor type, and thus may add up to less than 59.

^b Although total number of Community mentoring relationships is 105, the column totals reflect the number of relationships with data on both race/ethnicity and mentor type, and thus may add up to less than 105.

^c Fisher's exact test p-value.

TABLE XVI
MENTOR TYPE BY MENTEE YEAR IN COLLEGE IN UNIVERSITY AND COMMUNITY
MENTORING RELATIONSHIPS (% OF COLUMN)

| University Mentoring Relationships ^a | | | | |
|---|------------------------|---------------|---------------|----------------|
| | Mentee Year in College | | | p ^c |
| Mentor Type | Sophomore (n=22) | Junior (n=15) | Senior (n=22) | |
| Faculty (n=19) | 31.8% | 13.4% | 45.5% | 0.316 |
| Staff (n=8) | 13.6% | 13.3% | 13.6% | |
| Student (n=32) | 54.6% | 73.3% | 40.9% | |
| Community Mentoring Relationships ^b | | | | |
| | Mentee Year in College | | | p ^c |
| Mentor Type | Sophomore (n=32) | Junior (n=25) | Senior (n=47) | |
| Familial (n=51) | 50.0% | 48.0% | 51.1% | 0.878 |
| Non-Familial (n=29) | 25.0% | 36.0% | 27.7% | |
| Peer (n=22) | 25.0% | 16.0% | 21.3% | |

^a Although total number of University mentoring relationships is 59, the column totals reflect the number of relationships with data on both year in college and mentor type, and thus may add up to less than 59.

^b Although total number of Community mentoring relationships is 105, the column totals reflect the number of relationships with data on both residence and mentor type, and thus may add up to less than 105.

^c Fisher's exact test p-value.

iv. Mentor Type and Mentee Residence

Table XVII shows that students in University mentoring relationships were more likely to report a student mentor than a faculty or staff mentor regardless of whether they lived at home with parents, on campus, or off-campus with roommates; 63.6% of students who lived at home, 56.3% of students who lived on campus, and 47.4% of students who lived off campus reported a mentor who was a student at the university. Although this was not the case among students who had other living arrangements (e.g., lived with a fiancé/spouse), this residence category had only two respondents. On the other hand, students in Community mentoring

relationships were more likely to report a familial mentor regardless of where they lived; 45.5% of students who lived at home, 56.5% of students who lived on campus, 53.3% of students who lived off campus, and 42.9% of students who had other living arrangements reported a familial mentor.

TABLE XVII
MENTOR TYPE BY MENTEE RESIDENCE IN UNIVERSITY AND COMMUNITY
MENTORING RELATIONSHIPS (% OF COLUMN)

| University Mentoring Relationships ^a | | | | | |
|---|------------------|---------------------|----------------------|----------------|----------------|
| | Mentee Residence | | | | p ^c |
| Mentor Type | Home (n=22) | On Campus (n=16) | Off Campus (n=19) | Other (n=2) | |
| Faculty | 36.4% | 25.0% | 31.6% | 50.0% | 0.114 |
| Staff | 0.0% | 18.8% | 21.1% | 50.0% | |
| Student | 63.6% | 56.3% | 47.4% | 0.0% | |
| Community Mentoring Relationships ^b | | | | | |
| | Mentee Residence | | | | p ^c |
| Mentor Type | Home (n=44) | On Campus (n=23) | Off Campus (n=30) | Other (n=7) | |
| Familial | 45.5% | 56.5% | 53.3% | 42.9% | 0.594 |
| Non-Familial | 27.3% | 21.7% | 36.7% | 28.6% | |
| Peer | 27.3% | 21.7% | 10.0% | 28.6% | |

^a Although total number of University mentoring relationships is 59, the column totals reflect the number of relationships with data on both residence and mentor type, and thus may add up to less than 59.

^b Although total number of Community mentoring relationships is 105, the column totals reflect the number of relationships with data on both residence and mentor type, and thus may add up to less than 105.

^c Fisher's exact test

v. **Mentor Type and Mentee Participation in Student Organizations**

Table XVIII shows that, among University mentoring relationships, students who participated in student organizations were more likely than those who did not participate to report a faculty mentor (38.1% versus 18.8%). On the other hand, students who did not participate in a student organization were more likely than those who participated in student organizations to report a student mentor (75.0% versus 45.2%). Among Community mentoring relationships, students were more likely to report a familial mentor regardless of participation in student organizations; 47.3% of students who participated in a student organization and 53.1% of those who did not participate in a student organization reported a familial mentor.

vi. **Mentor Type and Mentee Participation in Community Service**

Table XIX shows that, among University mentoring relationships, comparable proportions of students who did or did not participate in community service reported a faculty or student mentor. For example, 31.1% of students that did participate in community service reported a faculty mentor while 35.7% of students who did not participate in community service reported the same. In contrast, twice as many students who participated in community service reported a staff mentor (15.6%) as those who did not participate in community service (7.1%). Among Community mentoring relationships, students who did participate in community service were more likely than those who did not participate in community service to report a non-familial mentor (33.3% versus 21.1%), but were less likely to report a familial mentor (47.0% versus 55.3%).

TABLE XVIII
MENTOR TYPE BY MENTEE PARTICIPATION IN STUDENT ORGANIZATIONS
IN UNIVERSITY AND COMMUNITY MENTORING RELATIONSHIPS (% OF COLUMN)

| University Mentoring Relationships ^a | | | |
|---|------------------------------------|-----------|----------------|
| | Student Organization Participation | | p ^c |
| Mentor Type | Yes (n=33) | No (n=12) | |
| Faculty | 38.1% | 18.8% | 0.372 |
| Staff | 16.7% | 6.3% | |
| Student | 45.2% | 75.0% | |
| Community Mentoring Relationships ^b | | | |
| | Student Organization Participation | | p ^c |
| Mentor Type | Yes (n=55) | No (n=49) | |
| Familial | 47.3% | 53.1% | 0.125 |
| Non-Familial | 34.5% | 22.4% | |
| Peer | 18.2% | 24.5% | |

^a Although total number of University mentoring relationships is 59, the column totals reflect the number of relationships with data on both student organization participation and mentor type, which may add up to less than 59.

^b Although total number of Community mentoring relationships is 105, the column totals reflect the number of relationships with data on both student organization participation and mentor type, which may add up to less than 105.

^c Fisher's exact test p-value.

F. Mentoring Relationship Characteristics

Table XX provides a comparison of mentoring relationship characteristics (frequency of contact, duration of relationship, and support provided) for University and Community mentoring relationships. Survey responses regarding how students and mentors met did not provide sufficient detail to differentiate between formal and informal (or natural) relationships for Community mentoring relationships. On the other hand, only two percent of respondents with a University mentor reported meeting their mentor through a university-sponsored

mentoring program. This made comparing by relationship types (formal versus informal) not feasible and the variable was not explored further. Of note, however, even though respondents with University mentors met their mentors informally, they met them during academic-related activities; 17% of students with University mentors met them while seeking academic guidance and 41% met them in class.

TABLE XIX
MENTOR TYPE BY STUDENT PARTICIPATION IN COMMUNITY SERVICE
IN UNIVERSITY AND COMMUNITY MENTORING RELATIONSHIPS (% OF COLUMN)

| University Mentoring Relationships ^a | | | |
|---|-------------------|-----------|----------------|
| | Community Service | | p ^c |
| Mentor Type | Yes (n=33) | No (n=13) | |
| Faculty | 31.1% | 35.7% | 0.832 |
| Staff | 15.6% | 7.1% | |
| Student | 53.3% | 57.1% | |
| Community Mentoring Relationships ^b | | | |
| | Community Service | | p ^d |
| Mentor Type | Yes (n=66) | No (n=38) | |
| Familial | 47.0% | 55.3% | 0.412 |
| Non-Familial | 33.3% | 21.1% | |
| Peer | 19.7% | 23.7% | |

^a Although total number of University mentoring relationships is 59, the column totals reflect the number of relationships with data on both community service and mentor type, which may add up to less than 59.

^b Although total number of Community mentoring relationships is 105, the column totals reflect the number of relationships with data on both community service and mentor type, which may add up to less than 105.

^c Fisher's exact test p-value.

^d Chi-squared test p-value.

TABLE XX
CHARACTERISTICS OF UNIVERSITY AND COMMUNITY MENTORING RELATIONSHIPS
 (% OF COLUMN)

| | University Mentoring Relationships (n=59) | Community Mentoring Relationships (n=105) | P |
|---|--|--|--------------------|
| Frequency of Contact | | | |
| Daily | 23.7% | 37.3% | 0.056 ^a |
| 2-3 times a week | 39.0% | 18.6% | |
| Once a week | 15.3% | 15.7% | |
| 2-3 times a month | 15.3% | 13.7% | |
| Once a month | 6.8% | 11.8% | |
| Other | 0.0% | 2.9% | |
| Duration (in months) Mean (sd) | 30.0 (43.9) | 143.4 (100.3) | 0.000 ^b |
| Mentor Support (MF Scale) Mean(sd) | 37.3 (7.8) | 37.3(7.2) | 0.955 ^b |
| Academic Support Subscale | 12.8 (2.8) | 11.9 (2.9) | 0.046 ^b |
| Psychosocial Support Subscale | 11.9 (3.3) | 13.0 (2.9) | 0.027 ^b |
| Role Modeling Subscale | 12.6 (2.7) | 12.5 (2.7) | 0.936 ^b |

^a Fisher's exact test p-values.
^b t-test p-values.

Contact between mentors and mentees was relatively frequent; most mentor-mentee pairs connected one or more times per week, with some variation between University and Community mentoring relationships. In University mentoring relationships, about 23.7% of mentor-mentee pairs had contact a daily basis, while 39.0% were in contact 2-3 times per week, 15.3% were in contact weekly, 15.3% were in contact 2-3 times per month, and another 6.8% were in contact once per month. On the other hand, in Community mentoring relationships, substantially more mentor-mentee pairs (37.3%) communicated on a daily basis and substantially less (18.6%) communicated 2-3 times per week. These differences suggest that Community mentoring relationships had more frequent contact than University mentoring

relationships. Due to the small sample size and the low proportions of mentoring relationships that connected 2-3 times per month or less frequently, subsequent analyses of contact frequency use four, rather than six, categories – daily, 2-3 times per week, once per week, and other (which includes 2-3 times per month, once per month and other).

The mean relationship duration was significantly longer for Community mentoring relationships (mean=143.4 months) than for University mentoring relationships (mean=30.0 months). On the other hand, perception of the overall support provided by the mentor did not differ between University and Community mentoring relationships; the mean mentor support score for both University and Community Mentors was 37.3. The mean scores for academic support and psychosocial support subscales were substantially different for University and Community mentoring relationships; the mean score for academic support was higher for University mentoring relationships than for Community mentoring relationships (12.8 versus 11.9) and the mean score for psychosocial support was higher for Community mentoring relationships than for University mentoring relationships (11.9 versus 13.0).

i. Frequency of Contact by Mentor Type

Table XXI shows that, in University mentoring relationships, student mentors were more likely than faculty or staff mentors to have daily contact with their mentees; 40.6% of student mentors had daily contact with their mentee and compared to 12.5% of staff mentors and 0.0% of faculty mentors. Most faculty and staff mentors connected with their mentee 2-3 times week (42.1% of faculty mentors and 37.5% of staff mentors). Similarly, in

Community mentoring relationships, peer mentors were more likely than familial or non-familial mentors to have daily contact with their mentees; 50.0% of mentoring relationships with a peer mentor had daily contact, while 42% of relationships with a familial mentor and 20.0% of relationships with a non-familial mentor had daily contact.

TABLE XXI
FREQUENCY OF CONTACT BY MENTOR TYPE IN UNIVERSITY AND COMMUNITY MENTORING RELATIONSHIPS (% OF COLUMN)

| University Mentoring Relationships ^a | | | | |
|---|-----------------|---------------------|----------------|----------------|
| | Mentor Type | | | p ^c |
| Frequency of Contact | Faculty (n=19) | Staff (n=8) | Student (n=32) | |
| Daily | 0.0% | 12.5% | 40.6% | 0.005 |
| 2-3 Times a Week | 42.1% | 37.5% | 37.5% | |
| Once a Week | 15.8% | 25.0% | 12.5% | |
| Other ^e | 42.1% | 25.0% | 9.4% | |
| Community Mentoring Relationships ^b | | | | |
| | Mentor Type | | | p ^d |
| Frequency of Contact | Familial (n=50) | Non-Familial (n=30) | Peer (n=22) | |
| Daily | 42.0% | 20.0% | 50.0% | 0.020 |
| 2-3 Times a Week | 26.0% | 10.0% | 13.6% | |
| Once a Week | 16.0% | 20.0% | 9.1% | |
| Other ^e | 16.0% | 50.0% | 27.3% | |

^a Although total number of University mentoring relationships is 59, the column totals reflect the number of relationships with data on both mentor type and frequency of contact, which may add up to less than 59.

^b Although total number of Community mentoring relationships is 105, the column totals reflect the number of relationships with data on both mentor type and frequency of contact, which may add up to less than 105.

^c Fisher's exact test p-values.

^d Chi-squared test p-values.

^e 2-3 Times a Month, Once a Month, Other.

ii. **Relationship Duration by Mentor Type**

Table XXII shows that relationship duration varied somewhat by mentor type for both University and Community mentoring relationships. University mentoring relationships with a student mentor had longer mean relationship duration (23.8 months) than relationships with faculty mentors (17.3 months) or staff mentors (15.0 months), although this was not significant. On the other hand, Community mentoring relationships with familial mentors had a significantly higher mean relationship duration than relationships with non-familial or peer mentors.

TABLE XXII
MEAN RELATIONSHIP DURATION BY MENTOR TYPE IN UNIVERSITY AND COMMUNITY MENTORING RELATIONSHIPS (% OF COLUMN)

| University Mentoring Relationships^a | | | | |
|---|----------------------------|--------------------------------|---------------------------|----------------------|
| | Mentor Type | | | p^c |
| | Faculty (n=16) | Staff (n=7) | Student (n=31) | |
| Duration (in months), Mean (sd) | 17.3 (10.1) | 15.0 (11.4) | 23.8 (14.1) | 0.131 |
| Community Mentoring Relationships^b | | | | |
| | Mentor Type | | | p^c |
| | Familial (n=49) | Non-Familial (n=30) | Peer (n=22) | |
| Duration (in months), Mean (sd) | 231.4 (50.7) | 56.9 (9.2) | 58.1 (12.4) | 0.000 |

^a Although total number of University mentoring relationships is 59, the column totals reflect the number of relationships with data on both mentor type and relationship duration, which may add up to less than 59.

^b Although total number of Community mentoring relationships is 105, the column totals reflect the number of relationships with data on both mentor type and relationship duration, which may add up to less than 105.

^c One-way ANOVA p-values.

iii. **Mentor Support by Mentor Type**

Among University mentoring relationships, the mean score for mentor support was comparable for faculty mentors (36.4) staff mentors (37.5) and student mentors (37.7) (Table XXIII). Similarly, the mean scores for academic support and role modeling were comparable for staff, faculty, and student mentors. The mean score for psychological support, however, was slightly lower for faculty mentors (10.6) than student mentors (12.6) or staff mentors (12.0).

Among Community mentoring relationships too, the mean score for overall mentor support, as well as for academic support and role modeling, did not differ by mentor type. The mean score for psychosocial support, however, differed substantially by mentor type: relationships with peer mentors had the highest mean scores psychosocial support (13.9), compared to familial mentors (13.1) and non-familial mentors (12.2).

G. **Sexual Health Discussions and Support**

In general, the prevalence of sexual health discussions and support between mentees and mentors (assessed using four survey items) was relatively low; sexual health discussions and support were reported in no more than half of University or Community mentoring relationships (Table XXIV). Additionally, the prevalence of sexual health discussions and support was not substantially different between Community and University mentoring relationships; discussions of sexual health issues or concerns (survey item 1) occurred in 35.6% of University mentoring relationships and 40.4% of Community mentoring relationships. Discussions of

TABLE XXIII
MEAN MENTOR SUPPORT SCORES BY MENTOR TYPE
IN UNIVERSITY AND COMMUNITY MENTORING RELATIONSHIPS (% OF COLUMN)

| University Mentoring Relationships^a | | | | |
|---|----------------------------|--------------------------------|---------------------------|----------------------|
| | Mentor Type | | | p^c |
| | Faculty (n=19) | Staff (n=8) | Student (n=32) | |
| Mentor Support, Mean (sd) | 36.4 (5.2) | 37.5 (6.3) | 37.7 (9.3) | 0.854 |
| Academic Support ^d , Mean (sd) | 12.9 (1.9) | 13.5 (2.3) | 12.6 (3.4) | 0.690 |
| Psychosocial Support ^e , Mean (sd) | 10.6 (2.9) | 12.0 (2.5) | 12.6 (3.6) | 0.105 |
| Role Modeling ^f , Mean (sd) | 12.9 (1.9) | 12.0 (2.3) | 12.5 (3.2) | 0.731 |
| Community Mentoring Relationships^b | | | | |
| | Mentor Type | | | p^c |
| | Familial (n=52) | Non-Familial (n=30) | Peer (n=22) | |
| Mentor Support, Mean (sd) | 37.9 (8.2) | 36.2 (7.6) | 37.3 (4.0) | 0.609 |
| Academic Support ^d , Mean (sd) | 12.7 (2.9) | 11.4 (2.9) | 11.1 (2.4) | 0.109 |
| Psychosocial Support ^e , Mean (sd) | 13.1 (3.0) | 12.2 (3.4) | 13.9 (1.4) | 0.093 |
| Role Modeling ^f , Mean (sd) | 12.4 (2.9) | 12.8 (2.6) | 12.2 (2.2) | 0.744 |

^a Although total number of University mentoring relationships is 59, the column totals reflect the number of relationships with data on both mentor type and mentor support, which may add up to less than 59.

^b Although total number of Community mentoring relationships is 105, the column totals reflect the number of relationships with data on both mentor type and mentor support, which may add up to less than 105.

^c One-way ANOVA p-values.

^d Academic Support subscale items: My mentor takes a personal interest in my education; My mentor helps me coordinate academic goals; My mentor devoted special time and consideration to my education.

^e Psychosocial Support subscale items: I share personal problems with my mentor; I exchange confidences with my mentor; I consider my mentor a friend.

^f Role Modeling subscale items: I try to model my behavior after my mentor; I admire my mentor's ability to motivate others; I respect my mentor's ability to counsel other.

expectations for sexual health behavior (survey item 2) occurred in 34.5% of University mentoring relationships and 34.6% of Community mentoring relationships and mentors expressed what they valued and supported in terms of sexual health behavior (survey item 3) in 40.7% of University mentoring relationships 50.5% of Community mentoring relationships. Finally, mentors provided resources specific to sexual health behavior (survey item 4) in 30.5% of University mentoring relationships and 35.0% of Community mentoring relationships.

TABLE XXIV

PREVALENCE OF SEXUAL HEALTH DISCUSSIONS AND SUPPORT IN UNIVERSITY AND COMMUNITY MENTORING RELATIONSHIPS (% OF COLUMN)

| COMMUNITY MENTORING RELATIONSHIPS (% OF COLUMN) | | | | | | |
|--|--|---|-------|---|-------|----------------|
| | | University Mentoring Relationships (n=59) | | Community Mentoring Relationships (n=105) | | p ^b |
| Sexual Health Discussions and Support survey items | | Yes | No | Yes | No | |
| 1 | Do you discuss sexual health issues/concerns with your mentor? | 35.6% ^a | 64.4% | 40.4% | 59.6% | 0.456 |
| 2 | Do you discuss expectations for sexual health behavior with your mentor? | 34.5% | 65.5% | 34.6% | 65.4% | 0.986 |
| 3 | Has your mentor ever discussed with you what he or she values and supports in terms of sexual health behavior choices? | 40.7% | 59.3% | 50.5% | 49.5% | 0.229 |
| 4 | Has your mentor ever provided resources specific to sexual health behavior? | 30.5% | 69.5% | 35.0% | 65.0% | 0.564 |

^a Percent of relationships in which discussions and support do occur (i.e. ‘yes’ response to questions).

^b Chi-squared test p-values.

i. **Mentor Type and Sexual Health Discussions and Support**

Table XXV shows that in University mentoring relationships, student mentors were more likely to have sexual health discussions and show support than faculty or staff mentors. More specifically, 56.3% of student mentors engaged in discussions about sexual health issues or concerns with their mentee (survey item 1), 54.8% engaged in discussions about expectations for sexual health behavior (survey item 2), 65.6% expressed what they valued and supported in terms of sexual health behavior (survey item 3), and 46.9% provided resources specific to sexual health behavior (survey item 4). In contrast, only 5.3% of University mentoring survey relationships with faculty mentors and 25% of University mentoring relationships with staff mentors involved any sexual health discussions or support.

Similarly, Table XXVI shows that Community mentoring relationships with peer mentors were more likely to have sexual health discussions and support than relationships with familial or non-familial mentors. For example, 63.6% of relationships with peer mentors had discussions of sexual health concerns (survey item 1) compared to 30.0% of relationships with non-familial mentors and 36.5% of relationships with familial mentors.

ii. **Frequency of Contact and Sexual Health Discussions and Support**

Table XXVII shows that sexual health discussions and support were more likely to occur in University and Community mentoring relationships that had daily contact, particularly for survey items 1, 2 and 3. For example, 85.7% of University mentoring relationships and 57.9% of Community mentoring relationships that had daily contact also had discussions of

sexual health issues or concerns compared to 30.4% of University mentoring relationships and 31.6% of Community mentoring relationships that connected 2-3 times per week.

TABLE XXV
SEXUAL HEALTH DISCUSSIONS AND SUPPORT BY MENTOR TYPE IN UNIVERSITY
MENTORING RELATIONSHIPS (% OF COLUMN)

| | University Mentor Type^a | | | p^b |
|---|---|-------------|----------------|----------------------|
| Sexual Health Discussion 1¹ | Faculty (n=19) | Staff (n=8) | Student (n=32) | |
| Yes | 5.3% | 25.0% | 56.3% | 0.001 |
| No | 94.7% | 75.0% | 43.8% | |
| Sexual Health Discussion 2² | Faculty (n=19) | Staff (n=8) | Student (n=32) | |
| Yes | 5.3% | 25.0% | 54.8% | 0.001 |
| No | 94.7% | 75.0% | 45.2% | |
| Sexual Health Discussion 3³ | Faculty (n=19) | Staff (n=8) | Student (n=32) | |
| Yes | 5.3% | 25.0% | 65.6% | 0.000 |
| No | 94.7% | 75.0% | 34.3% | |
| Sexual Health Discussion 4⁴ | Faculty (n=19) | Staff (n=8) | Student (n=32) | |
| Yes | 5.3% | 25.0% | 46.9% | 0.007 |
| No | 94.7% | 75.0% | 53.1% | |

^a Although total number of University mentoring relationships is 59, the column totals reflect the number of relationships with data on both mentor type and sexual health discussion, and thus may add up to less than 59.

^b Fisher's exact test p-values.

Sexual Health Discussion and Support items:

¹ Do you discuss sexual health issues/concerns with your mentor?

² Do you discuss expectations for sexual health behavior with your mentor?

³ Has your mentor ever discussed with you what he or she values and supports in terms of sexual health behavior choices?

⁴ Has your mentor ever provided resources specific to sexual health behavior?

TABLE XXVI
SEXUAL HEALTH DISCUSSIONS AND SUPPORT BY MENTOR TYPE IN COMMUNITY MENTORING
RELATIONSHIPS (% OF COLUMN)

| | Community Mentor Type ^a | | | P ^b |
|---|---|---------------------|-------------|-----------------------|
| Sexual Health Discussion 1¹ | Familial (n=52) | Non-Familial (n=30) | Peer (n=22) | |
| Yes | 36.5% | 30.0% | 63.6% | 0.037 |
| No | 63.5% | 70.0% | 36.4% | |
| Sexual Health Discussion 2² | Familial (n=52) | Non-Familial (n=30) | Peer (n=22) | |
| Yes | 30.8% | 23.3% | 59.1% | 0.020 |
| No | 69.2% | 76.7% | 40.9% | |
| Sexual Health Discussion 3³ | Familial (n=51) | Non-Familial (n=30) | Peer (n=22) | |
| Yes | 49.0% | 40.0% | 68.2% | 0.127 |
| No | 51.0% | 60.0% | 31.8% | |
| Sexual Health Discussion 4⁴ | Familial (n=51) | Non-Familial (n=30) | Peer (n=22) | |
| Yes | 33.3% | 26.7% | 50.0% | 0.206 |
| No | 66.7% | 73.3% | 50.0% | |

^a Although total number of Community mentoring relationships is 105, the column totals reflect the number of relationships with data on both mentor type and sexual health discussion, and thus may add up to less than 105.

^b Fisher's exact test p-values.

Sexual Health Discussion and Support items:

¹ Do you discuss sexual health issues/concerns with your mentor?

² Do you discuss expectations for sexual health behavior with your mentor?

³ Has your mentor ever discussed with you what he or she values and supports in terms of sexual health behavior choices?

⁴ Has your mentor ever provided resources specific to sexual health behavior?

iii. Relationship Duration and Sexual Health Discussions and Support

As Table XXVIII shows, mean relationship duration was consistently longer in University mentoring relationships in which sexual health discussions and support did occur compared to those in which it did not occur. For example, University mentoring relationships in which mentees reported discussing sexual health issues/concerns (survey item 1) were on average 23.4 months long, while those in which such discussions did not occur were on average

TABLE XXVII
SEXUAL HEALTH DISCUSSIONS AND SUPPORT BY FREQUENCY OF CONTACT
IN UNIVERSITY AND COMMUNITY MENTORING RELATIONSHIPS ^a

| University Mentoring Relationships ^b | | | | | |
|--|-----------------------------|----------------------------|-----------------------|------------------------------|----------------|
| | Frequency of Contact | | | | |
| | Daily (n=14) | 2-3 Times a Week (n=23) | Once a Week (n=9) | Other ^d (n=13) | p ^e |
| Sexual Health Discussion 1 ¹ | 85.7% | 30.4% | 11.1% | 7.7% | 0.000 |
| Sexual Health Discussion 2 ² | 78.6% | 30.4% | 11.1% | 8.3% | 0.000 |
| Sexual Health Discussion 3 ³ | 85.7% | 34.8% | 22.2% | 15.4% | 0.001 |
| Sexual Health Discussion 4 ⁴ | 50.0% | 30.4% | 22.2% | 15.4% | 0.257 |
| Community Mentoring Relationships ^c | | | | | |
| | Frequency of Contact | | | | |
| | Daily (n=38) | 2-3 Times a Week (n=19) | Once a Week (n=16) | Other ^d (n=29) | p ^e |
| Sexual Health Discussion 1 ¹ | 57.9% | 31.6% | 43.8% | 20.7% | 0.061 |
| Sexual Health Discussion 2 ² | 55.3% | 21.1% | 37.5% | 13.8% | 0.014 |
| Sexual Health Discussion 3 ³ | 67.6% | 57.9% | 37.5% | 31.0% | 0.034 |
| Sexual Health Discussion 4 ⁴ | 48.6% | 47.4% | 18.8% | 17.2% | 0.058 |

^a Value in cells represents the percentage of relationships in which discussions and support do occur (i.e. 'yes' response to survey items below).

^b Although total number of University mentoring relationships is 59, the column totals reflect the number of relationships with data on both frequency of contact and sexual health discussion, which may add up to less than 59.

^c Although total number of Community mentoring relationships is 105, the column totals reflect the number of relationships with data on both frequency of contact and sexual health discussion, which may add up to less than 105.

^d 2-3 Times a Month, Once a Month, Other.

^e Fisher's exact test p-values.

Sexual Health Discussion and Support items:

¹ Do you discuss sexual health issues/concerns with your mentor?

² Do you discuss expectations for sexual health behavior with your mentor?

³ Has your mentor ever discussed with you what he or she values and supports in terms of sexual health behavior choices?

⁴ Has your mentor ever provided resources specific to sexual health behavior?

19.1 months long. On the other hand, Community mentoring relationships in which sexual health discussions and support did occur (specifically for survey items 1, 2, and 4) had shorter mean durations than relationships in which these discussion and support did not occur.

Although these differences were not significant, they are consistent with other findings in this study that showed that most Community mentoring relationships were with familial mentors, and had longer durations, but involved less sexual health discussion and support than mentoring relationships with peer or non-familial mentors.

iv. Mentor Support and Sexual Health Discussions and Support

Table XXIX shows that the difference in mean mentor support scores between University mentoring relationships that had sexual health discussions and support and those that did not were substantial for only one of the four survey items. Relationships in which mentors provided sexual health resources (survey item 4) had mentor support scores that were, on average, 5.71 points higher than those in which mentors did not provide sexual health resources. University mentoring relationships in which mentors provided sexual health resources (survey item 4) also had higher mean scores for psychosocial support and role modeling than relationships in which mentors did not provide sexual health resources – differences in means were 2.72 and 1.67 respectively.

Table XXIX also shows that mean mentor support scores for survey items 3 and 4 differed substantially between Community mentoring relationships in which sexual health discussions and support occurred and those in which these discussions did not occur.

TABLE XXVIII
RELATIONSHIP DURATION AND SEXUAL HEALTH DISCUSSIONS AND SUPPORT
IN UNIVERSITY AND COMMUNITY MENTORING RELATIONSHIPS

| University Mentoring Relationships ^a | | | | | | | | |
|---|---------------------------------------|-------|------------------------|-------|------------------------|-------|------------------------|-------|
| | Sexual Health Discussions and Support | | | | | | | |
| | 1 ¹ (n=51) | | 2 ² (n=50) | | 3 ³ (n=51) | | 4 ⁴ (n=51) | |
| | Yes | No | Yes | No | Yes | No | Yes | No |
| Relationship Duration (in months) | 23.4 | 19.1 | 21.9 | 20.1 | 23.5 | 18.6 | 25.7 | 18.3 |
| | p=0.260 | | p=0.660 | | p=0.186 | | p=0.061 | |
| Community Mentoring Relationships ^b | | | | | | | | |
| | Sexual Health Discussions and Support | | | | | | | |
| | 1 ¹ (n=101) | | 2 ² (n=101) | | 3 ³ (n=100) | | 4 ⁴ (n=100) | |
| | Yes | No | Yes | No | Yes | No | Yes | No |
| Relationship Duration (in months) | 139.9 | 145.8 | 138.5 | 146.0 | 144.5 | 140.4 | 139.6 | 143.9 |
| | p=0.772 | | p=0.722 | | p=0.842 | | p=0.845 | |

Note: p-values are from t-tests

^a Although total number of University mentoring relationships is 59, the column totals reflect the number of relationships with data on both relationship duration and sexual health discussion, which may add up to less than 59.

^b Although total number of Community mentoring relationships is 105, the column totals reflect the number of relationships with data on both relationship duration and sexual health discussion, which may add up to less than 105.

Sexual Health Discussion and Support items:

¹ Do you discuss sexual health issues/concerns with your mentor?

² Do you discuss expectations for sexual health behavior with your mentor?

³ Has your mentor ever discussed with you what he or she values and supports in terms of sexual health behavior choices?

⁴ Has your mentor ever provided resources specific to sexual health behavior?

TABLE XXIX
MENTOR SUPPORT AND SEXUAL HEALTH DISCUSSIONS AND SUPPORT IN
UNIVERSITY AND COMMUNITY MENTORING RELATIONSHIPS

| University Mentoring Relationships ^a | | | | | | | | |
|---|---------------------------------------|------|------------------------|------|------------------------|------|------------------------|------|
| | Sexual Health Discussions and Support | | | | | | | |
| | 1 ¹ (n=59) | | 2 ² (n=58) | | 3 ³ (n=59) | | 4 ⁴ (n=59) | |
| | Yes | No | Yes | No | Yes | No | Yes | No |
| Mentor Support (MF Scale) | 37.2 | 37.3 | 12.1 | 13.2 | 12.8 | 11.4 | 12.3 | 12.7 |
| | p=0.991 | | p=0.879 | | p=0.381 | | p=0.008 | |
| Academic Support Subscale | 37.6 | 37.8 | 12.4 | 13.3 | 12.8 | 11.6 | 12.4 | 12.9 |
| | p=0.178 | | p=0.207 | | p=0.961 | | p=0.103 | |
| Psychosocial Support Subscale | 38.3 | 36.5 | 12.8 | 12.8 | 12.8 | 11.2 | 12.7 | 12.5 |
| | p=0.114 | | p=0.183 | | p=0.070 | | p=0.003 | |
| Role Modeling Subscale | 41.2 | 35.5 | 13.7 | 12.4 | 13.8 | 11.0 | 13.7 | 12.0 |
| | p=0.569 | | p=0.398 | | p=0.730 | | p=0.028 | |
| Community Mentoring Relationships ^b | | | | | | | | |
| | Sexual Health Discussions and Support | | | | | | | |
| | 1 ¹ (n=102) | | 2 ² (n=104) | | 3 ³ (n=103) | | 4 ⁴ (n=103) | |
| | Yes | No | Yes | No | Yes | No | Yes | No |
| Mentor Support (MF Scale) | 38.3 | 36.6 | 12.1 | 11.7 | 13.8 | 12.4 | 12.4 | 12.6 |
| | p=0.243 | | p=0.584 | | p=0.023 | | p=0.010 | |
| Academic Support Subscale | 37.9 | 37.0 | 11.8 | 11.9 | 13.8 | 12.6 | 12.3 | 12.7 |
| | p=0.523 | | p=0.915 | | p=0.028 | | p=0.025 | |
| Psychosocial Support Subscale | 38.9 | 35.6 | 12.5 | 11.3 | 13.7 | 12.3 | 12.8 | 12.2 |
| | p=0.018 | | p=0.055 | | p=0.011 | | p=0.002 | |
| Role Modeling Subscale | 39.8 | 35.9 | 12.8 | 11.4 | 14.2 | 12.3 | 12.9 | 12.3 |
| | p=0.764 | | p=0.494 | | p=0.321 | | p=0.293 | |

Note: p-values are from t-tests

^a Although total number of University mentoring relationships is 59, the column totals reflect the number of relationships with data on both relationship duration and sexual health discussion, which may add up to less than 59.

^b Although total number of Community mentoring relationships is 105, the column totals reflect the number of relationships with data on both relationship duration and sexual health discussion, which may add up to less than 105.

Sexual Health Discussion and Support items:

¹ Do you discuss sexual health issues/concerns with your mentor?

² Do you discuss expectations for sexual health behavior with your mentor?

³ Has your mentor ever discussed with you what he/she values and supports in terms of sexual health behavior choices?

⁴ Has your mentor ever provided resources specific to sexual health behavior?

Relationships in which mentors expressed what they valued and supported in terms of sexual health behavior (item 3) and relationships in which mentors provided sexual health resource to mentees (item 4) had higher mean scores for overall mentor support, academic support, and psychosocial support than relationships in which such discussions or support did not occur. Additionally, relationships in which mentors and mentees discussed sexual health issues or concerns (item 1) and expectations for sexual health behavior (item 2) also had higher mean scores for psychosocial support than relationships in which such discussions and support did not occur.

H. Sexual Health Behaviors and Mentoring

Shifting the focus back to the students, an examination of the sexual health behaviors of study participants and the relationships between these sexual health behaviors and mentoring in the sample is presented below.

i. Sexual Health Behaviors among Study Participants

Sixty-nine percent (69%) of the 137 students in the sample reported prior sexual experience (Table XXX). Among these sexually active respondents (n=95), 28% reported two or more sexual partners within the last school year, 32% reported that their last sexual partner was a casual partner, 50% did not use a condom the last time they had sex, 38% of those reporting sexual activity in the last month (n=75) reported never/rarely using condoms. It should be noted that only 3% (n=2) of all respondents reporting sexual activity in the last month

also reported sometimes using condoms; for analytical purposes, these students were folded into the group of students reporting rarely or never using condoms.

TABLE XXX
SEXUAL HEALTH BEHAVIORS AMONG STUDY PARTICIPANTS (N=137)

| | n (%) | Male (n=36) | Female (n=99) | P |
|---|---------|----------------|------------------|--------------------|
| | | % | % | |
| Ever Sex | | | | |
| Yes | 95 (69) | 67 | 70 | 0.737 |
| No | 42 (31) | 33 | 30 | |
| Number of Sexual Partners^a | | | | |
| None | 13 (14) | 13 | 15 | 1.000 ^d |
| 1 partner | 55 (58) | 58 | 59 | |
| 2 or more | 27 (28) | 29 | 26 | |
| Last Sexual Partner Status^a | | | | |
| Casual Partner | 30 (32) | 36 | 30 | 0.609 |
| Steady Partner | 65 (68) | 64 | 70 | |
| Condom Use Frequency^b | | | | |
| Always/Mostly | 37 (49) | 55 | 48 | 0.611 |
| Sometimes/Rarely/Never ^c | 38 (51) | 45 | 52 | |
| Condom Use Last Time^a | | | | |
| Yes | 48 (50) | 56 | 50 | 0.608 |
| No | 47 (50) | 44 | 50 | |
| STI/HIV Testing^a | | | | |
| Yes | 22 (23) | 20 | 25 | 0.639 |
| No | 73 (77) | 80 | 75 | |

^a Among those reporting prior sexual experience (n=95).

^b Among respondents reporting sexual activity in the last 30 days (n=75).

^c Only 3% (n=2) of all respondents reporting sexual activity in the last 30 days also reported sometimes using condoms; therefore,, these students were folded into the group of students reporting rarely or never using condoms for future analysis.

^d Fisher's exact test p-value; all other p-values are from chi-squared tests.

ii. **Sexual Health Behaviors among Students with and without a Mentor**

Table XXXI shows that students with a University mentor only were more likely that students with no mentor, a Community only or both types of mentors to report ever having sex (83.3% versus 73.7%, 65.5% and 68.1% respectively). Those with a University mentor only were also more likely to report having two or more sexual partners in the last year (50.0%), compared to those with no mentor (13.3%), a Community mentor only (16.2%) or both types of mentors (38.7%). Students with a University mentor were less likely to report always/mostly using condoms and condom use last time than students with a Community mentor only or students with both types of mentors, but more likely to report these behaviors than students with no mentor. For example, while 40.0% of students with a University mentor reported condom use last time, this proportion was 45.9% among those with a Community mentor only; 68.8% among those with both types of mentors; but 33.3% among those with no mentor.

These results also show that students with both types of mentors were more likely to report condom use last time and a casual partner than students with only one mentor or no mentor – 50.0% of students with both types of mentors reported that their last sexual partner was a casual partner, compared to 20.0%, 10.0%, and 26.3% of students with no mentor, a University mentor only, and with a Community mentor only, respectively. Additionally, students with a Community mentor only or both types of mentors were more likely to report always/mostly using condoms (53.1% and 54.2% respectively), compared to those with a University mentor only (37.5%) or no mentor (36.4%). STI/HIV testing, on the other hand, did not differ between the groups of students.

TABLE XXXI
SEXUAL HEALTH BEHAVIORS AMONG STUDENTS WITH AND WITHOUT A MENTOR
 (% OF COLUMN)

| Sexual Behaviors | NO Mentor (n=20) | University Mentor ONLY (n=12) | Community Mentor ONLY (n=58) | BOTH Mentors (n= 47) | p^c |
|---|---------------------------------|--|---|-------------------------------------|----------------------|
| Ever Sex | | | | | |
| Yes | 73.7% | 83.3% | 65.5% | 68.1% | 0.689 |
| No | 26.3% | 16.7% | 34.5% | 31.9% | |
| Number of Sexual Partners^a | | | | | |
| None | 33.3% | 10.0% | 10.8% | 9.7% | 0.049 |
| 1 partner | 53.3% | 40.0% | 73.0% | 51.6% | |
| 2 or more | 13.3% | 50.0% | 16.2% | 38.7% | |
| Last Sexual Partner Status^a | | | | | |
| Casual Partner | 20.0% | 10.0% | 26.3% | 50.0% | 0.042 |
| Steady Partner | 80.0% | 90.0% | 73.7% | 50.0% | |
| Condom Use Frequency^b | | | | | |
| Always/Mostly | 36.4% | 37.5% | 53.1% | 54.2% | 0.464 |
| Sometimes/Rarely/Never | 63.6% | 62.5% | 46.9% | 45.8% | |
| Condom Use Last Time^a | | | | | |
| Yes | 33.3% | 40.0% | 45.9% | 68.8% | 0.083 |
| No | 66.7% | 60.0% | 54.1% | 31.2% | |
| STI/HIV Testing^a | | | | | |
| Yes | 26.7% | 20.0% | 23.7% | 21.9% | 0.983 |
| No | 73.3% | 80.0% | 76.3% | 78.1% | |

^a Among those reporting prior sexual experience (n=95).

^b Among respondents reporting sexual activity in the last 30 days (n=75).

^c Fisher's exact test p-values.

To determine if some of the aforementioned findings were influenced by mentor type, the association between sexual health behaviors and mentor type among students reporting a University mentor only and those reporting a Community mentor only was further explored. Results for these analyses are presented below. Please note, these analyses could not be conducted among students with both types of mentors; this would have required further categorization of these students into groups representing unique combinations of University and Community mentor types (e.g., students with a faculty mentor-familial mentor combination, students with a faculty mentor-non-familial mentor combination, students with a faculty mentor-peer mentor combination, etc.) due to sample size considerations.

iii. **Sexual Health Behaviors and Mentor Type**

Table XXXII compares the sexual health behaviors of students with a University mentor only categorized by mentor type and students with no mentor. Due to a small number of students with a University mentor only (n=12), the distributions do not offer much insight, and confidence cannot be placed on the results of the associated analyses.

Table XXXIII shows that students with familial mentors were more likely than those with non-familial or peer mentors to have ever had sex (78.6% of students with a familial mentor reported ever having sex compared to 53.3% of students with a non-familial mentor or 53.3% of those with a peer mentor). Students with a familial mentor were also more likely than students in the other groups to report more frequent condom use (72.2% of students with a familial mentor reported always/mostly using a condom, compared to 36.4% of students with

no mentor, 16.7% of those with a non-familial mentor, and 37.5% of those with a peer mentor), but less likely report a casual partner or STI/HIV testing.

TABLE XXXII
SEXUAL HEALTH BEHAVIORS AMONG STUDENTS WITH NO MENTOR AND STUDENTS WITH A UNIVERSITY MENTOR ONLY BY MENTOR TYPE (% OF COLUMN)

| Sexual Behaviors | No Mentor (n=20) | University Mentor Type | | | p ^c |
|---|---------------------|------------------------|----------------|------------------|----------------|
| | | Faculty (n=8) | Staff (n=2) | Student (n=2) | |
| Ever Sex | | | | | |
| Yes | 73.7% | 75.0% | 100.0% | 100.0% | 1.000 |
| No | 26.3% | 25.0% | 0.0% | 0.0% | |
| Number of Sexual Partners^a | | | | | |
| None | 33.3% | 0.0% | 0.0% | 50.0% | 0.138 |
| 1 partner | 53.3% | 33.3% | 50.0% | 50.0% | |
| 2 or more | 13.4% | 66.7% | 50.0% | 0.0% | |
| Last Sexual Partner Status^a | | | | | |
| Casual Partner | 20.0% | 0.0% | 50.0% | 0.0% | 0.353 |
| Steady Partner | 80.0% | 100.0% | 50.0% | 100.0% | |
| Condom Use Frequency^b | | | | | |
| Always/Mostly | 36.4% | 40.0% | 50.0% | 0.0% | 1.000 |
| Sometimes/Rarely/Never | 63.6% | 60.0% | 50.0% | 100.0% | |
| Condom Use Last Time^a | | | | | |
| Yes | 33.3% | 50.0% | 50.0% | 0.0% | 0.765 |
| No | 66.7% | 50.0% | 50.0% | 100.0% | |
| STI/HIV Testing^a | | | | | |
| Yes | 26.7% | 16.7% | 0.0% | 50.0% | 0.783 |
| No | 73.3% | 83.3% | 100.0% | 50.0% | |

^a Among those reporting prior sexual experience (n=10).

^b Among respondents reporting sexual activity in the last 30 days (n=8).

^c Fisher's exact test p-values.

TABLE XXXIII
SEXUAL HEALTH BEHAVIORS AMONG STUDENTS WITH NO MENTOR AND STUDENTS WITH A COMMUNITY MENTOR ONLY BY MENTOR TYPE (% OF COLUMN)

| Sexual Behaviors | No Mentor (n=20) | Community Mentor Type | | | p ^c |
|---|---------------------|-----------------------|------------------------|----------------|----------------|
| | | Familial (n=28) | Non-Familial (n=15) | Peer (n=15) | |
| Ever Sex | | | | | |
| Yes | 73.7% | 78.6% | 53.3% | 53.3% | 0.193 |
| No | 26.3% | 21.4% | 46.7% | 46.7% | |
| Number of Sexual Partners^a | | | | | |
| None | 33.5% | 9.5% | 25.0% | 0.0% | 0.186 |
| 1 partner | 53.3% | 76.2% | 75.0% | 62.5% | |
| 2 or more | 13.3% | 14.3% | 0.0% | 37.5% | |
| Last Sexual Partner Status^a | | | | | |
| Casual Partner | 20.0% | 18.2% | 50.0% | 25.0% | 0.375 |
| Steady Partner | 80.0% | 81.8% | 50.0% | 75.0% | |
| Condom Use Frequency^b | | | | | |
| Always/Mostly | 36.4% | 72.2% | 16.7% | 37.5% | 0.060 |
| Sometimes/Rarely/Never | 63.6% | 27.8% | 83.3% | 62.5% | |
| Condom Use Last Time^a | | | | | |
| Yes | 33.3% | 47.6% | 50.0% | 37.5% | 0.843 |
| No | 66.7% | 52.4% | 50.0% | 62.5% | |
| STI/HIV Testing^a | | | | | |
| Yes | 26.7% | 18.2% | 37.5% | 25.0% | 0.694 |
| No | 73.3% | 81.8% | 62.5% | 75.0% | |

^a Among those reporting prior sexual experience (n=53).

^b Among respondents reporting sexual activity in the last 30 days (n=43).

^c Fisher's exact test p-values.

On the other hand, students with a non-familial mentor were more likely to report a casual partner and testing for STI/HIV; 50.0% of students with a non-familial mentor reported that their last sexual partner was a casual partner, compared to 20.0% of students with no mentor, 18.2% of those with a familial mentor, and 25.0% of those with a peer mentor. Similarly, 37.5% of those with a familial mentor reported testing for an STI, compared to 26.7%

of students with no mentor, 18.2% of those with a familial mentor, and 25.0% of those with a peer mentor.

Students with a peer mentor, on the other hand, were more likely to report two or more sexual partners than students in the other groups; 37.5% of students with a peer mentor reported two or more sexual partners in the last year, compared to 0.0% of students with a non-familial mentor, 14.3% of students with a familial mentor, and 13.3% of students with no mentor.

iv. Sexual Health Behaviors and Mentoring Relationship Characteristics

Due to the small sample size of students with a University mentor only (n=12), further analysis examining the distribution of sexual health behaviors by mentoring relationships characteristics was not conducted for this groups of students.

As Table XXXIV shows, among students with a Community mentor only, those who had daily contact with their mentor were less likely to report two or more sexual partners in the last year – 0.0% of students who had daily contact with their mentor reported two or more sexual partners in the last year, compared to 20.0% of students who had contact with their mentor 2-3 times per week and 13.3% of students with no mentor. Students who had daily contact with their Community mentor were also less likely to report a casual partner than students with less frequent contact as well as students with no mentor; for example, 6.3% of students who had daily contact with their mentor reported a casual partner, compared to 16.7% of those had contact with their mentor 2-3 times per week.

TABLE XXXIV
SEXUAL HEALTH BEHAVIORS AMONG STUDENTS WITH NO MENTOR AND STUDENTS WITH A COMMUNITY MENTOR ONLY BY FREQUENCY OF MENTOR-MENTEE CONTACT (% OF COLUMN)

| | No Mentor | FREQUENCY OF CONTACT WITH COMMUNITY MENTOR | | | | p ^c |
|---|-----------|--|------------------|-------------|--------------------|----------------|
| | | Daily | 2-3 Times a Week | Once a Week | Other ^d | |
| Ever Sex | (n=19) | (n=22) | (n=11) | (n=5) | (n=20) | 0.293 |
| Yes | 73.7% | 72.7% | 54.5% | 100.0% | 55.0% | |
| No | 26.3% | 27.3% | 45.5% | 0.0% | 45.0% | |
| N. of Sexual Partners^a | (n=15) | (n=16) | (n=5) | (n=5) | (n=11) | 0.064 |
| None | 33.3% | 12.5% | 0.0% | 0.0% | 18.2% | |
| 1 | 53.3% | 87.5% | 80.0% | 40.0% | 63.6% | |
| 2 or More | 13.3% | 0.0% | 20.0% | 60.0% | 18.2% | |
| Last Sexual Partner Status^a | (n=15) | (n=16) | (n=6) | (n=5) | (n=11) | 0.046 |
| Casual Partner | 20.0% | 6.3% | 16.7% | 40.0% | 54.5% | |
| Steady Partner | 80.0% | 93.8% | 83.3% | 60.0% | 45.5% | |
| Condom Use Frequency^b | (n=11) | (n=12) | (n=6) | (n=5) | (n=9) | 0.055 |
| Always/Mostly | 36.4% | 41.7% | 100.0% | 20.0% | 55.6% | |
| Stimes/Rarly/Never | 63.6% | 58.3% | 0.0% | 80.0% | 44.4% | |
| Condom Use Last Time^a | (n=15) | (n=16) | (n=6) | (n=5) | (n=10) | 0.006 |
| Yes | 33.3% | 18.8% | 100.0% | 40.0% | 60.0% | |
| No | 66.7% | 81.2% | 0.0% | 60.0% | 40.0% | |
| STI/HIV Testing^a | (n=15) | (n=16) | (n=6) | (n=5) | (n=11) | 0.315 |
| Yes | 26.7% | 12.5% | 16.7% | 60.0% | 27.3% | |
| No | 73.3% | 87.5% | 83.3% | 40.0% | 72.7% | |

^a Among those reporting prior sexual experience (n=53).

^b Among respondents reporting sexual activity in the last 30 days (n=43).

^c Fisher's exact test p-values.

^d 2-3 Times a Month, Once a Month, Other.

Additionally, students who had daily contact with their Community mentor were more likely to report always/mostly using condoms, compared to students with no mentor but not compared to students with less frequent contact – 41.7% of students who reported daily contact with their Community mentor reported always or mostly using a condom compared to 36.4% of students with no mentor; but 100% of students who reported connecting with their mentor 2-3 times per week also reported using a condom always. This finding may be explained by preceding findings in this study that students with familial mentors were more likely to report always/mostly using condoms and were also more likely to connect with their mentors more frequently.

At the same time, it also appears that students with daily contact were less likely to report condom use last time – 18.8% of students who had daily contact reported condom use last time, compared to 100.0% of those who had contact 2-3 times per week, 40.0% of those who had contact once per week, 60.0% of those who have less frequent contact, and 33.3% of those with no mentor. This finding may also be explained by preceding findings in this study that students with peer mentors were less likely to report condom use last time and were also more likely to connect with their mentors daily.

Table XXXV shows that the mean scores for overall mentor support, as well as for academic support and psychosocial support, did not differ substantially for most sexual health behaviors among students with a Community mentor only. Of note, there are differences in the role modeling score for ever having sex and number of sexual partners, as well as differences in overall mentor support, as well as for psychosocial support and role modeling when compared

to those who reported not testing. Additionally, the mean score for role modeling was higher among those reporting not ever having sex (13.3) compared to those reporting ever having sex (12.2). Most interestingly, the mean score for role modeling was also lower among students reporting two or more sexual partners (9.83) than among students reporting one sexual partner (12.59) or among students reporting no sexual partners (13.00).

Table XXXVI shows that students in longer lasting relationships (longer duration) were more likely to report a steady partner and always/mostly using condoms. More specifically, the mean relationship duration among students who reported always or mostly using a condom was substantially higher than among those reporting never or rarely using a condom (188.80 versus 101.81 months) and the mean relationship duration for students who reported a steady partner was substantially higher than for students who reported a casual partner (163.85 versus 92.25 months). Analysis also showed that the sexual health behaviors of students who reported engaging in sexual health discussions and support with their mentor did not substantially differ from students who did not report engaging in these discussions. The results are not included herein.

In summary, this exploratory study revealed some interesting results, including a high prevalence of mentoring relationships among study participants. Those with a mentor, particularly those with a University mentor, were more likely to participate in campus student organizations and community service. Mentors within the university community were more likely to be students; were more likely to be matched with their mentee by race/ethnicity but not by gender; were more likely to connect with students one or more times per week; and

were more likely to provide academic support to students. University mentors who were also students had more frequent contact with their mentee and were more likely to discuss sexual health issues with their mentee. University mentoring relationships with more frequent contact and more mentor support were also more likely to have sexual health discussions. Mentors from outside the university community, on the other hand, were more likely to be family members; were more likely to be matched by both gender and race/ethnicity; were more likely to connect with students daily; and were more likely to provide psychosocial support to students. Peer mentors in Community mentoring relationships, on the other hand, were more likely to have sexual health discussions with their mentee than familial mentors.

Additionally, this study found some differences in the distribution of sexual health behaviors between students with a mentor and those without a mentor. More particularly, it appears that students with a University mentor were more likely to report two or more sexual partners in the last year and students with both types of mentors were more likely to report a casual sexual partner and condom use last time. Students with a familial Community mentor were more likely to report always/mostly using a condom and students who connected with their Community mentor daily were less likely to report a casual partner but also less likely to report condom use last time. These findings, and their limitations, are further discussed in the next chapter.

TABLE XXXV
MEAN MENTOR SUPPORT SCORES BY SEXUAL HEALTH BEHAVIOR AMONG
STUDENTS WITH A COMMUNITY MENTOR ONLY

| | | Mentor Support (means, sd) | | | |
|---|------------------------|-----------------------------------|-------------------------|-----------------------------|------------------------|
| | | Overall Support | Academic Support | Psychosocial Support | Role Modeling |
| Ever Sex (n=58) | | | | | |
| | Yes | 36.5 (6.4) | 11.6 (2.6) | 12.7 (3.1) | 12.2 (2.3) |
| | No | 37.9 (4.0) | 11.5 (2.3) | 13.2 (1.7) | 13.3 (1.5) |
| | | (p=0.358) | (p=0.881) | (p=0.517) | (p=0.072) |
| No. of Sexual Partners ^a (n=37) | | | | | |
| | None | 37.0 (6.4) | 11.0 (3.6) | 13.0 (2.8) | 13.0 (1.6) |
| | 1 | 37.2 (5.4) | 11.9 (2.3) | 12.8 (2.9) | 12.6 (1.9) |
| | 2 or more | 32.2 (9.9) | 10.8 (3.2) | 11.5 (4.5) | 9.8 (3.3) |
| | | (p=0.220) ^d | (p=0.618) ^d | (p=0.656) ^d | (p=0.022) ^d |
| Last Sexual Partner Status ^a (n=38) | | | | | |
| | Casual Partner | 34.3 (8.8) | 10.6 (2.9) | 11.8 (4.8) | 11.9 (3.0) |
| | Steady Partner | 37.2 (5.3) | 11.9 (2.4) | 12.9 (2.3) | 12.4 (2.1) |
| | | (p=0.219) | (p=0.173) | (p=0.319) | (p=0.603) |
| Condom Use Frequency ^b (n=32) | | | | | |
| | Always/Mostly | 36.4 (7.1) | 11.2 (2.7) | 13.1 (3.0) | 12.1 (2.7) |
| | Sometimes/Rarely/Never | 36.6 (6.3) | 12.1 (2.3) | 12.3 (3.5) | 12.1 (2.3) |
| | | (p=0.918) | (p=0.297) | (p=0.536) | (p=0.986) |
| Condom Use Last Time ^a (n=37) | | | | | |
| | Yes | 36.0 (7.3) | 11.5 (2.4) | 12.5 (3.9) | 12.1 (2.7) |
| | No | 36.6 (5.6) | 11.5 (2.7) | 12.7 (2.4) | 12.4 (2.1) |
| | | (p=0.798) | (p=0.981) | (p=0.829) | (p=0.669) |
| STI/HIV Testing ^a (n=38) | | | | | |
| | Yes | 33.1 (9.6) | 11.3 (3.2) | 10.7 (5.2) | 11.1 (3.0) |
| | No | 37.5 (4.7) | 11.6 (2.4) | 13.3 (1.9) | 12.6 (2.0) |
| | | (p=0.071) | (p=0.773) | (p=0.027) | (p=0.099) |

^a Among those reporting prior sexual experience.

^b Among respondents reporting sexual activity in the last 30 days.

^c ANOVA test p-values; all other p-values are from Student's t-tests.

TABLE XXXVI
MEAN RELATIONSHIP DURATION AND SEXUAL HEALTH BEHAVIORS AMONG
STUDENTS WITH A COMMUNITY MENTOR ONLY

| | | Relationship Duration (mean, sd) | P |
|--|------------------------|-------------------------------------|--------------------|
| Ever Sex (n=58) | | | |
| | Yes | 147.5 (106.0) | 0.185 |
| | No | 109.5 (90.6) | |
| Number of Sexual Partners ^a (n=37) | | | |
| | None | 97.4 (144.4) | 0.515 ^c |
| | 1 | 159.5 (105.7) | |
| | 2 or more | 120.0 (95.6) | |
| Last Sexual Partner Status ^a (n=38) | | | |
| | Casual Partner | 92.3 (90.8) | 0.094 |
| | Steady Partner | 163.9 (106.2) | |
| Condom Use Frequency ^b (n=32) | | | |
| | Always/Mostly | 188.8 (22.9) | 0.019 |
| | Sometimes/Rarely/Never | 101.8 (26.3) | |
| Condom Use Last Time ^a (n=37) | | | |
| | Yes | 138.3 (100.9) | 0.759 |
| | No | 149.8 (112.9) | |
| STI/HIV Testing ^a (n=38) | | | |
| | Yes | 127.3 (123.6) | 0.516 |
| | No | 154.5 (101.0) | |

^a Among those reporting prior sexual experience.

^b Among respondents reporting sexual activity in the last 30 days .

^c ANOVA test p-values; all other p-values are from t-tests.

V. DISCUSSION

The goals of this exploratory study were to provide a more detailed description of the prevalence and characteristics of mentoring relationships among college students than is currently available in the literature, and to explore potential associations between mentoring and student sexual health behaviors. Although sample size issues (discussed later in this chapter) restricted the types of statistical analysis possible in this study, there were a number of promising findings that, in particular, highlight areas for future research. What follows is a discussion of major findings, limitations of the study, and recommendations for policy and practice.

A. Prevalence and Characteristics of Mentoring Relationships

A large proportion (85%) of study participants had at least one person in their life who they considered a mentor. This is similar to that reported by DuBois and Silverthorn (2005a), who found that about 73% of adolescents in the National Longitudinal Study of Adolescent Health (Add Health) reported having a mentor. The current study includes information on mentors within two contexts – from within the university and from social networks outside the university; therefore, the percentage of students reporting a mentor may have been higher than in other studies. Most importantly, 43% of respondents (59 out of 137) reported a mentor within the university (a University mentor), which indicates that a substantial proportion of students are likely to develop mentoring relationships with a member of the university community.

About one-third (34%) of students in this study reported a mentor in both contexts (i.e. two mentors). Additionally, even though participants reported on only one mentor within each environment, it is possible that some students had more than one mentor in each environment. For example, Berardi (2012) found that 33% of college students in his study sample reported two mentors on campus and 7% reported three mentors. Literature on mentoring in academic and workplace settings also indicates that individuals are likely to have multiple mentors, with each mentor meeting different needs at different times in the individual's development (Spencer and Basualdo-Delmonico, 2014).

Almost all of the mentoring relationships represented in this study were natural mentoring relationships (i.e. relationships that occur spontaneously); these informal, unstructured relationships do not follow any standardized format. Despite the presence of a number of mentoring programs at the institution from which the study sample was drawn, only 2% of study participants reported meeting their University mentors through a formal mentoring program on campus. The low proportion of formal mentoring relationships may be indicative of the fact that currently available mentoring programs at the university reach a small proportion of students. Evidence related to the proportion of college students in both natural and formal mentoring relationships is lacking in the literature. Prior studies of mentoring programs on college campuses have evaluated the effects of participation in formal mentoring programs on student outcomes without assessing the prevalence of participation in such programs in the larger student population.

This study also found that two salient campus activities, student organization participation and community service, were associated significantly with having a mentor.

Students reporting a mentor, particularly those reporting a University mentor or both a University mentor and a Community mentor, were more likely to report participating in student organizations and community service. Due to the cross-sectional nature of the study, however, causality cannot be determined and therefore the direction of the relationship is not known: It may be that having a mentor leads to participation in student organizations or that participation in student organizations leads to having a mentor. Additionally, although not statistically significant, compared to students who did not participate in student organizations, a greater proportion of students who did participated in student organizations had faculty or staff mentors (38.1% versus 18.8% and 16.7% versus 6.3% respectively) while a greater proportion of students who did not participate in student organizations had student mentors compared to those who did participate in student organizations (75.0% versus 45.1%). These results suggest that campus student organizations and community service programs may provide avenues for developing supportive relationships with faculty and staff mentors. However, further study is needed to make a definitive conclusion about the direction of the relationships between these variables.

There was significant race/ethnicity matching between mentors and mentees for both University and Community mentoring relationships. Gender matching was also present for Community mentoring relationships but not for University mentoring relationships. A recent study of undergraduate and graduate students also found that students with mentors valued having a mentor of their own gender or race and reported receiving more support in gender- and race-matched relationships (Blake-Beard et al., 2011). The current study provides more support for the preference of such matching in natural mentoring relationships. The presence

of significant race/ethnicity matching but not gender matching in University mentoring relationships suggests that matching based on race/ethnicity may be of more value for students than matching on gender. The significant racial and gender matching found in Community mentoring relationships is not unexpected considering these relationships are embedded within the individuals', often homogenous, personal networks off the university campus (McPherson et al., 2001) and a significant proportion are with familial mentors.

In addition to the high prevalence of mentoring relationships among study participants, this study also found that significant proportions of both University and Community mentors were peers (no more than five years older than the respondent). In fact, 54% of University mentors were other students at the university and 21% of Community mentors were also peers. Although mentor type was not significantly associated with any student characteristic, including respondent year in college, residence, student organization participation, and community service, it was associated with some mentoring relationship characteristics. For example, mentoring relationships with peer mentors were associated with more frequent contact in both University and Community mentoring relationships – 40.6% of University mentoring relationships with a student mentor had daily contact, compared to 12.5% and 0.0% of relationships with a staff or faculty mentor respectively. Similarly, 50.0% of Community mentoring relationships with peer mentors had daily contact, compared to 42.0% and 20.0% of relationships with a familial and non-familial mentor, respectively. This higher frequency of contact with student mentors may be, at least in part, a function of the proximity of mentors to mentees, due to sharing a physical location (i.e. the university campus) but also due to the similarity of their pursuits and activities (e.g., higher education) or developmental stage (i.e.

emerging adulthood). Student mentors also appear to provide more psychosocial support than other types of mentors, which may be the result of the increased frequency of contact between respondents and their peer mentors. Previous research has also shown that frequency of contact is associated with more perceived support (DuBois and Silverthorn, 2005b). Additionally, University mentoring relationships with student mentors had slightly longer relationship duration than relationships with faculty or staff mentors (mean relationship duration was 28.3 months for student mentors, 15.0 months for staff mentors and 17.3 months for faculty mentors). As would be expected, Community mentoring relationships with familial mentors had significantly longer duration than relationships with non-familial and peer mentors (mean relationship duration was 231.4 months for familial mentors, 56.9 months for non-familial mentors and 58.1 months for peer mentors).

The relatively high prevalence of peer mentoring relationships, particularly within the university context, as well as the association between having a peer mentor and relationship characteristics indicative of greater relationship quality (i.e. longer relationship duration and greater frequency of contact), supports the view that peers are an integral part of the college experience (Pascarella and Terenzini, 2005). College students view their peer mentors, especially those they perceive to have recently and successfully overcome similar challenges, as important sources of relevant support (Shotton et al., 2007).

The data also shows that students develop natural mentoring relationships with university staff and faculty. In fact, almost half of University mentoring relationships in this study were with faculty or staff. Additionally, a greater proportion of faculty and staff mentors were male (e.g., 13 of the 18 faculty mentors identified in this study were male) and,

subsequently, a greater proportion of both male and female students who reported a mentoring relationship with a faculty or staff reported a male faculty or staff mentor (83.7% of male students and 58.3% of female students reported male faculty mentors; 100.0% of male students and 57.1% of female students reported a male staff mentor). The disproportionate prevalence of male faculty and staff mentors may be indicative of the differential availability (whether by numbers or willingness) between male and female faculty and staff to serve as mentors to students. Although a significant association was not found between these variables, the availability and participation of faculty and staff in mentoring relationships within the university warrants further study.

On the other hand, half of all mentors outside the university context were family members (mother, father, uncle, etc.); a finding similar to previous studies of natural mentoring relationships among adolescents and young adults (DuBois and Silverthorn, 2005a; Hurd et al., 2014). These relationships were characterized by more frequent contact, longer relationship duration, and more academic and psychosocial support than relationships with non-familial mentors. Relationships with familial mentors have been shown to improve coping ability and sense of purpose among emerging adults (Hurd et al., 2014) and, further, secure attachments with parents have been shown to predict academic, social, and emotional adjustment among college students (Soucy and Larose, 2000). On the other hand, mentoring relationships with adults outside the family have the potential to widen the student's social network and expose the student to different opportunities, and have also been linked with better outcomes (DuBois and Silverthorn, 2005b; Hurd et al., 2014). In fact, Soucy and Larose (2000) found that mentoring relationships with non-familial mentors were predictive of college adjustment above

and beyond the influence of parental or familial attachment and support. Therefore, it is possible that the inclusion of familial mentors in this study may have skewed the findings somewhat. For example, because relationships with family members would naturally have much longer durations and more frequent contact than relationships with non-familial individuals, the presence or lack of significant associations between these variables and sexual health behaviors may have been a function of their inclusion in the study.

Additionally, it is possible that some mentors reported in this study, particularly peer mentors, were romantic partners. This would skew the findings as individuals in romantic relationships may be likely to have more frequent contact and perceive more support than individuals in platonic relationships. These relationships may also be characterized by more sexual health discussions and sexual health behaviors that are considered 'risky' (i.e. non-condom use last time, less frequent condom use) as well as sexual health behaviors that are considered 'protective' (i.e. fewer number of partners, steady sexual partner). However, the proportion of respondents reporting a mentor who was or may have been a sexual partner was relatively small (only 1% of Community mentors and 3.4% of University mentors were identified as a boyfriend or girlfriend) and therefore is unlikely to have affected the findings in a significant way.

Unlike prior studies on mentoring among college students, this study collected data on whether mentor-mentee pairs engaged in sexual health discussions with each other and whether mentors provided informational resources related to sexual health (e.g., where to access condoms). At least one-third of mentoring relationships, both within the university and community context, had reports of sexual health discussions and support, suggesting that

these types of discussions and support occur in mentoring relationships, even when the relationships were not formed for that specific purpose. The relatively low level of discussion, however, could also be related to the very nature of these relationships. Natural mentoring relationships, compared to formal mentoring relationships which often have a prescribed set of activities, may not provide opportunities for such discussions or the provision of adequate or effective information, resources or role modeling to affect sexual health behaviors.

Additionally, sexual health discussions may also be affected by the fact that these relationships are formed between a mentor and a student by virtue of their mutual social networks. Thus, if they both belong to a social network that considers sexuality a taboo topic for discussion, as is common in many ethnic groups, the level of discussion about sexual health behavior would be expected to be less.

Again, student mentors were more likely to have sexual health discussion and support than faculty or staff mentors (for example, 56.3% of student mentors discussed sexual health issues and concerns with their mentee compared to 25.0% of staff mentors, and 5.3% of faculty mentors). In the Community context, peer mentoring relationships were also more likely to have sexual health discussion than relationships with familial or non-familial mentors (for example, 63.6% of peer mentors discussed sexual health issues and concerns with their mentee compared to 36.5% of familial mentors, and 30.0% of non-familial mentors). Previous studies among adolescents and young adults have also found that peers communicate often with friends about sex (Lefkowitz et al., 2004; Rittenour and Booth-Butterfield, 2006). In this study, sexual health discussions were associated significantly with frequency of contact and mentor support for both University and Community mentoring relationships. For example, 85.7% of

University mentoring relationships and 57.9% of Community mentoring relationships that had daily contact also discussed sexual health issues and concerns, compared to 30.4% of University mentoring relationships and 31.6% of Community mentoring relationships with less frequent contact (2-3 times per week). Additionally, the association between mentoring relationship duration and sexual health discussion and support (item 4) in University mentoring relationships approached significance ($p=0.061$). These findings suggest that sexual health discussions and support are more likely to occur in relationships characterized by frequent contact and more perceived mentor support. High frequency of contact enables relationship growth and bonding between mentor and student and facilitates meaningful discussions and skill development that can positively impact the student (DuBois and Silverthorn, 2005b; Goldner and Mayseless, 2009).

B. Mentoring and Sexual Health Behaviors

Sexual health behaviors reported by study participants are consistent with what is known about the sexual health behavior of college students in general. Twenty-eight percent of study participants reported having two or more sexual partners in the last year, 32% reported that their last sexual partner was a casual one, and 48% reported rarely or never using a condom. Previous studies also found that significant proportions of college students engage in risky sexual health behaviors, including having multiple sexual partners and inconsistent condom use (ACHA, 2014; Bogle, 2008; Grello et al., 2006; Owen et al., 2010; Reel and Hellstrom, 2013). This study also highlighted a number of potential relationships between having a mentor and sexual health behaviors.

In general, due to sample size constraints and associated limitations (discussed in the next section), study findings should be interpreted with caution. Students who reported having a mentor did not differ significantly from those who reported not having a mentor for two of the six sexual health behaviors examined: ever having sex, and STI/HIV testing. For example, 20.0% of students with a University mentor only, 23.7% of those with a Community mentor only, 21.9% of those with both types of mentors, and 26.7% of those with no mentor reported testing for STI/HIV in the last year. Findings, however, were mixed for the remaining behaviors: number of sexual partners, last sexual partner status, condom use frequency, and condom use last time. Some differences between students with and without a mentor met or approached statistical significance.

A greater proportion of students with a University mentor only (50%) reported two or more sexual partners in the last year, compared to students with no mentor (13%), a Community mentor only (16%), or both types of mentors (38%). This difference was found to be statistically significant, suggesting that having a mentor from within the University is associated with an increased likelihood of reporting more sexual partners. These findings may, in part, be explained by the prevalent hook up culture on college campuses and the fact that most of University mentoring relationships were with students (54.2%), and involved more frequent contact and sexual health discussions compared to relationships with other types of mentors. This is further supported by findings that the proportion of students who reported having two or more sexual partners was highest among students with a peer community mentor (37.5%) compared to students with a familial mentor (14.3%), a non-familial mentor (0.0%), or no mentor (13.3%). Although similar analyses was not feasible among students with University

mentors only, similar results are expected given that preceding analyses of the characteristics of mentoring relationships with peer University mentors also revealed that students in these relationships had more frequent contact and more sexual health discussions with these mentors. Even though this study does not provide more-detailed analyses of the content of sexual health discussions, previous research points to the fact that discussions of sexual activity among peers, particularly those that convey permissive attitudes, are associated with risky sexual health behaviors (Brandhorst et al., 2012; Busse et al., 2010; Lefkowitz et al., 2004; Maxwell, 2002; Sieving et al., 2006). Additionally, although the mentoring literature indicates that more frequent contact is an indicator of greater relationship quality and is associated with positive outcomes, this study suggests that this may not be the case for natural mentoring relationships with peer mentors within the university context and particularly for outcomes related to sexual health behaviors.

For some behaviors, specifically for last sexual partner status and condom use last time, it appears as though having both types of mentors may influence sexual health behavior more than having just one mentor. More specifically, a greater proportion of respondents with both types of mentors reported that their last sexual partner was a casual partner (50.0%), compared to respondents with no mentor (20.0%), a University mentor only (10.0%), or a Community mentor only (26.3%). Similarly, a greater proportion of students with both types of mentors reported condom use last time (68.8%) compared to 40.0% of students with a University mentor, 45.9% of students with a Community mentor, and 33.3% of students with no mentor. These differences were statistically significant (last sexual partner; $p=0.049$) or approached statistical significance (condom use last time; $p=0.083$). Although, this and other

studies (Berardi, 2012) have demonstrated that young people are likely to have more than one person they consider a mentor in their lives, research on the cumulative effect of having multiple mentors is lacking in the field (Zimmerman et al., 2005). Findings in this study provide impetus for further research in this area.

Analyses exploring the association between mentor type and sexual health behaviors among students reporting a Community mentor only identified a trend towards a statistically significant difference between students by mentor type. More specifically, the greater proportion of students with a familial mentor (72.2%) reported always/mostly using a condom compared to students with a non-familial mentor (16.7%) or a peer mentor (37.5%), as well as students with no mentor (36.4%) ($p=.060$). Additionally, a greater proportion (although not significantly) of students with a Community mentor only (53.1%) or both types of mentors (54.2%) also reporting always/mostly using condoms compared to students with a University mentor only (37.5%) or no mentor (36.4%). Most Community mentors (50.0%) were family members and relationships with familial mentors were characterized by frequent contact and longer duration, which have been linked to better youth outcomes (DuBois and Silverthorn, 2005b). These findings, in combination, suggest that having a familial mentor may be associated with condom use frequency.

It is also interesting that the proportion of students who reported always/mostly using condoms was similar between students with a peer community mentor (37.5%) and students with no mentor (36.4%) but much lower among those with a non-familial mentor, suggesting that peer mentors may not significantly influence condom use frequency. There were also similarities in the proportions of students with a peer mentor and no mentor who reported a

casual partner (25.0% and 20.0% respectively), condom use last time (37.5% and 33.3% respectively), and STI testing (25.0% and 26.7% respectively), suggesting that having a peer mentor is not associated with any of these sexual health behaviors.

Comparisons of sexual health behaviors by frequency of contact and relationship duration among students with a Community mentor only also found associations that met or approached statistical significance for condom use frequency. More specifically, the proportion of students reporting always/mostly using condoms was higher among students reporting connecting with their mentor daily or 2-3 times per week than among students with no mentor. Relationship duration was also significantly associated with condom use frequency among students with a Community mentor only. These findings can be explained by preceding results that indicate a significant association between relationship duration and having a familial Community mentor – relationships with familial Community mentors had significantly longer durations and condom use frequency was highest among these students.

Comparisons of sexual health behaviors and indicators of relationship quality among students with a Community mentor only also found some associations that met or approached statistical significance between frequency of contact and number of sexual partners ($p=.064$), last sexual partner status ($p=.046$), condom use frequency ($p=.055$), and condom use last time ($p=.006$), but provide mixed support for the direction of these effects. In these comparisons, it appears that the proportion of students reporting two or more sexual partners was lowest among students who reported daily contact with their mentor (for example, 0.0% of students that had daily contact with their Community mentor reported two or more sexual partners compared to 20.0% of those who connected with their mentor 2-3 times per week). Similarly,

the proportion of students who reported that their last sexual partner was a casual partner was lowest among students who had daily contact with their mentor (for example, 6.3% of students that had daily contact with their Community mentor reported that their last sexual partner was a casual partner compared to 16.7% of those who connected with their mentor 2-3 times per week). On the other hand, the proportion of students reporting condom use last time was lower among students reporting daily contact with their mentors than among students reporting less frequent contact with their mentor. This might be explained by the preceding findings that show daily contact to be highest among Community mentoring relationships with peer mentors.

As a whole, the findings in this study seem to indicate that mentoring relationships with peers are an important source of support for college students and may influence sexual health decision-making (albeit negatively), particularly because peer relationships are also associated with more frequent contact and more sexual health discussions. However, the study did not explore the content of sexual health discussions between mentors and mentees, which may, in part, explain the increased likelihood of risky sexual behaviors found in the study. The fact that students with peer mentors (whether a University or Community mentor) were more likely to also report having two or more sexual partners may suggest that peers negatively influence some sexual health behaviors by reinforcing negative sexual behavior norms that are prevalent in the college population (Scholly et al., 2005). Previous research has shown that college students often overestimate the risky sexual behaviors of their peers (Rittenour and Booth-Butterfield, 2006) and such overestimations of the risky sexual behavior of peers in general, and peer mentors in particular, may explain the sexual health behaviors of study participants.

Furthermore, the observed increase in risky sexual behaviors among study participants is also possible if study participants perceived that their mentors had more liberal attitudes about sex and if they believed that they would gain their peer mentor's respect by engaging in sexual activity (Maxwell, 2002; Searing et al., 2006). Additionally, mentoring relationships widen an individual's social network, which may negatively influence sexual health behavior, particularly among individuals that are learning to develop and maintain intimate relationships and friendships.

C. Study Limitations

It is important to interpret the study findings with caution due to a number of limitations. These limitations, which include threats to the internal and external validity of the findings as well as potential measurement errors, impact the ability to make strong conclusions about relationships between the variables, particularly between mentoring and sexual health behavior.

The low response rate is a major limitation and impacted the ability to conduct meaningful subgroup analysis. The small sample size also limited the ability to isolate the effect of having a University mentor on sexual health behaviors by accounting for the moderating or mediating effects of other variables, including the presence of a Community mentor. Although random sampling of study participants from a target population enhances opportunities to generalize findings to the larger student body at the university, a low response rate attenuates gains in representativeness. It should be noted, however, that the low response rate in this study is not atypical for the target population, particularly for online surveys. Response rates in

previous studies of college students have ranged from 25% to 50% (Jans and Roman, 2007; Perkins, 2011) compared to 18% in this study.

Study participants were comparable to the undergraduate student population the sample was (randomly) drawn from in their racial identity, but not in their gender identity. More specifically, the racial identity distribution of the study sample was 42% White, 27% Asian/PI, 22% Latino, and 5% African American, while that of the undergraduate student population enrolled at the institution at the time of the study (fall 2014 semester) was 36% White, 23% Asian, 26% Latino and 8% African American (UIC, 2014). The study sample had more female participants than male participants (72% versus 27%), whereas the student population at the university had almost equal proportions of male and female students (49.8% male and 50.2% female) (UIC, 2014). This demonstrated difference in the gender composition of the sample and the target population is suggestive of self-selection bias. This means that students who participated in the study may differ from those who did not participate in ways that are systematically related to the behavior under study (Olsen, 2008). Additionally, the voluntary and anonymous nature of participation and the sensitive nature of the subject matter also increased the potential for self-selection bias in this study; it is possible that those who participated in the study engage in less risky behavior than those that did not participate. These same study characteristics also make it impossible to test for (and adjust for) the presence of this bias.

The use of self-administered surveys as the sole data collection method and the retrospective nature and social context of the assessment also increase the potential for self-report bias (Schroder et al., 2003). Self-report of behavior, particularly that related to sensitive

or taboo subjects such as sexual risk behavior, is also prone to social desirability bias (van de Mortel, 2008). Although incentivized, voluntary and anonymous participation sought to reduce this bias, it remained a limitation in this study. Additionally, recall periods in this study ranged from one month to one year. Longer recall periods for various behaviors may limit the accuracy of these self-reports, particularly recall periods longer than three months (Schroder et al., 2003). Additionally, the use of a cross-sectional design, which inherently does not enable causal inference to be made about the relationships between variables, is also a threat to the internal validity of the study. This design is only able to identify existing differences (or lack thereof) between the variables and cannot eliminate other plausible explanations for the identified relationships among study variables (de Vaus, 2001).

A number of potential measurement errors may also limit the validity and reliability of measures used in this study. The lack of a single, agreed upon definition of mentoring is still a challenge in research on mentoring (Crisp and Cruz, 2009). Different operational definitions will undoubtedly produce different results, which may create an issue with the reliability of the measure for presence of mentoring relationship (de Vaus, 2001). Although the definition of mentoring used in this study is similar to that used in many recent studies on the subject (Berardi, 2012; Rhodes et al., 1994; Sanchez et al., 2008), unlike those other studies, it did not exclude groups of individuals who could skew the findings, including familial mentors and romantic partners. Additional measurement issues in the study include the fact that the survey did not adequately capture formal mentoring relationships, particularly for Community mentoring relationships. Responses to a combination of questions were used to determine whether a mentoring relationship was formal or informal – how respondents met their

mentor(s) and their relationship to their mentor(s). Response options were open ended and, therefore, it was difficult to differentiate between formal and informal mentoring relationships. As a result, almost all mentoring relationships identified in this study were natural or informal relationships (only 2% of University mentoring relationships were identified as formal).

Although natural mentoring relationships have been shown to have positive effects on the academic and behavior outcomes of adolescents and young adults (DuBois and Silverthorn, 2005a; Hurd et al., 2014), one challenge with natural mentoring relationships is that those who would benefit the most from such relationships may not have access to them, due to individual level limitations and/or those related to their environment (e.g., those living in high crime neighborhoods may not have sufficient access to adults (or peers) that can serve in a mentor role (DuBois and Silverthorn, 2005b). Berardi (2012) also found that natural mentoring relationships are more likely to occur among students who have help seeking behaviors and positive attachment to their parents. These and other traits, such as self-efficacy and self-esteem, have been positively linked with sexual health behaviors among adolescents and college students (Burns and Dillon, 2005; Gentzler and Kerns, 2004; Salazar et al., 2005). Therefore, it is possible that students in this study who reported having a mentor also have these and other traits, which make them more likely to develop a relationship with a mentor, but also more likely to engage in protective sexual health behaviors. If mentoring is less effective in changing the health behaviors of this 'less risky' sample, it may explain the lack of significant findings. Additionally, these informal, unstructured relationships do not provide relevant guidance or training to mentors in order to positively influence the sexual health behavior of mentees and different mentors may interpret their role differently. This makes it

difficult to explain the impact of informal mentoring and sexual health behaviors. Formal mentoring programs, on the other hand, may be more suitable for targeting student behavior, particularly among those considered at risk for negative outcomes, as formal mentoring provides mechanisms to structure and guide the relationships.

It is also possible that the associations identified between mentoring variables and sexual health behaviors were due to factors that were not accounted for in this study but may influence sexual health behavior among college students, including personality traits and environmental risks. For example, research has highlighted that college students with sexual sensation seeking personalities, low self-esteem, and insecure attachments with others are more likely to engage in risky sexual behaviors (Gentzler and Kerns, 2004; Gullette and Lyons, 2005). Additionally, analyses in this study do not take into account the relationship status of study participants (i.e. whether the participant is in a committed relationship, married, dating, or single), which may influence sexual health behaviors, especially those related to condom use (Leonard and Scott-Jones, 2010; Njus and Bane, 2009). Had relationship status been accounted for, the relationship between mentoring and condom use may have been stronger; this could be true for other sexual health behaviors also. Future research in the area should either exclude romantic partners or measure and adjust for relationship status in the analyses. The lack of significant findings may also be related to the “optimal timing of mentoring as a preventive intervention as well as practical issues pertaining to implementation (e.g., receptivity of youth to mentoring at differing stages of development)” (DuBois et al., 2002). It is possible that the effects of mentoring on sexual health behaviors diminish in relation to the age of the mentee and that mentees in emerging adulthood are less likely to be influenced by a mentor in relation

to their sexual health behavior. Due to the exploratory nature of the study, no adjustments for plausible explanations were conducted.

D. Recommendations

Recommendations based on the findings of the study are presented below. While some findings may be useful for informing the development of mentoring interventions on college campuses, the need for further research is at the core of the recommendations.

It is important to improve upon and replicate this study, with a larger sample size, in order to get a more accurate assessment of the prevalence and characteristics of mentoring relationships and of the relationships between mentoring and sexual health behavior among college students. For example, the level and type of sexual discussions between respondents and mentors warrants further study. Although this study found that peers were more likely than faculty or staff to engage in these discussions with their mentees, it is important to explore the nature of these discussions in order to determine how they may influence sexual health behavior. Faculty and staff members, on the other hand, may feel uncomfortable with having these discussions with their students and may consider such discussions inappropriate. It is also possible that faculty and staff may not know how to assist a student who needs information and resources related to sexual health behavior and may thus avoid initiating and/or participating in such discussions. Further research in this area can identify barriers and opportunities for sexual health discussions and supports in mentoring relationships with faculty and staff in order to determine how best to enable these supportive relationships.

The association between having a mentor and participation in campus student activities also warrants further research, including the association between having a faculty or staff mentor and student activity participation, and may have implications for policy and practice in postsecondary educational institutions. Furthermore, identifying the direction of the association between mentoring and campus student activity involvement is essential for determining if institutions should provide additional support for innovative student engagement practices that increase the likelihood that students develop supportive relationships with faculty and staff mentors.

This study found that significantly more mentoring relationships develop naturally; therefore, it is worthwhile to identify ways to support these types of mentoring relationships. This is most feasible for faculty and staff, who made up about half of the mentors at the university. Therefore, it may be useful to consider ways to provide resources to faculty and staff mentors in order to support them in their relationship with students. For example, faculty and staff could be offered information on campus and community resources to address a variety of challenges students may encounter during their time at the institution, including sexual health concerns. Additionally, support for faculty and staff mentors could also include tools to help them enhance their communication skills with students that are close to them and help them address sexual health issues without feeling like they are crossing the line. These types of support to faculty and staff mentors may increase sexual health discussion and positively influence the sexual health behavior of students.

An additional recommendation is related to enhancing the reach and quality of formal mentoring programs on campus. The low number of participants who reported university-

sponsored formal mentoring relationships in this study is somewhat concerning. Although these programs are, by design, intended to reach groups of students that are at most risk, this study was not able to provide insight into the characteristics of these relationships. To this end, an assessment of the practices of current formal mentoring programs as it relates to recruitment, matching, and training of mentors and students, as well as their effectiveness, is essential for identifying service gaps that need to be addressed. Additionally, as natural mentoring relationships with peers may not be ideal for promoting positive (safer) sexual health behaviors, formal mentoring programs may be better suited to address the needs of those most at risk for unsafe sexual behavior. Research also suggests that when peer mentors are trained to address risky behavior among their peers and do so in a structured format, they are more likely to positively influence their behavior (Fromme et al., 1999; Petosa and Smith, 2014). Therefore, it is important to build the capacity of formal mentoring programs and assess their effectiveness in addressing student needs for both academic and health-related outcomes.

Overall, findings in this exploratory study provide limited evidence of the prevalence of mentoring in the college population and its association with sexual health behaviors. Findings do, however, highlight some college-specific characteristics of mentoring relationships (for example, the high prevalence of natural peer mentoring relationships) and contexts (for example, the association between mentoring and campus student organization participation) that require further study and may present opportunities and challenges for the use of mentoring to support positive sexual decision-making in the target population.

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APPENDICES

APPENDIX A

UNIVERSITY OF ILLINOIS AT CHICAGO

Office for the Protection of Research Subjects (OPRS)
Office of the Vice Chancellor for Research (MC 672)
203 Administrative Office Building
1737 West Polk Street
Chicago, Illinois 60612-7227

Approval Notice Initial Review (Response To Modifications)

October 13, 2014

Fasika Alem, MPH
Health Policy and Administration
13817 Park Avenue
Dolton, IL 60419
Phone: (773) 732-3589 / Fax: (312) 996-4161

RE: Protocol # 2014-0885
“Mentoring and Sexual Health Behavior in College”

Dear Ms. Alem:

Your Initial Review (Response To Modifications) was reviewed and approved by the Expedited review process on October 9, 2014. You may now begin your research

Please note the following information about your approved research protocol:

| | |
|--|-----------------------------------|
| <u>Protocol Approval Period:</u> | October 9, 2014 - October 9, 2015 |
| <u>Approved Subject Enrollment #:</u> | 750 |
| <u>Additional Determinations for Research Involving Minors:</u> These determinations have not been made for this study since it has not been approved for enrollment of minors. | |
| <u>Performance Sites:</u> | UIC |
| <u>Sponsor:</u> | None |

Research Protocol(s):

- a) Research Protocol: Mentoring and Sexual Health Behavior in College; Version 1; 09/09/2014

Recruitment Material(s):

- a) Study Invitation (& Reminder) Email; Version 2; 09/30/2014

Informed Consent(s):

- a) Consent Information and Survey; Version 2; 09/30/2014
- b) A waiver of documentation of consent has been granted under 45 CFR 46.117 for the online survey; minimal risk; subjects will be provided with an information sheet containing all of the elements of consent.

APPENDIX A (continued)

Your research meets the criteria for expedited review as defined in 45 CFR 46.110(b)(1) under the following specific category(ies):

(7) Research on individual or group characteristics or behavior (including but not limited to research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

Please note the Review History of this submission:

| Receipt Date | Submission Type | Review Process | Review Date | Review Action |
|--------------|---------------------------|----------------|-------------|------------------------|
| 09/18/2014 | Initial Review | Expedited | 09/18/2014 | Modifications Required |
| 10/03/2014 | Response To Modifications | Expedited | 10/09/2014 | Approved |

Please remember to:

→ Use your **research protocol number** (2014-0885) on any documents or correspondence with the IRB concerning your research protocol.

→ Review and comply with all requirements on the enclosure,

"UIC Investigator Responsibilities, Protection of Human Research Subjects"
<http://tiger.uic.edu/depts/ovcr/research/protocolreview/irb/policies/0924.pdf>

Please note that the UIC IRB has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.

Please be aware that if the scope of work in the grant/project changes, the protocol must be amended and approved by the UIC IRB before the initiation of the change.

We wish you the best as you conduct your research. If you have any questions or need further help, please contact OPRS at (312) 996-1711 or me at (312) 355-0816. Please send any correspondence about this protocol to OPRS at 203 AOB, M/C 672.

Sincerely,

Alison Santiago, MSW, MJ
 IRB Coordinator, IRB # 2
 Office for the Protection of Research Subjects

Enclosure(s):

1. **UIC Investigator Responsibilities, Protection of Human Research Subjects**
2. **Informed Consent Document(s):**
 - a) Consent Information and Survey; Version 2; 09/30/2014
3. **Recruiting Material(s):**
 - a) Study Invitation (& Reminder) Email; Version 2; 09/30/2014

cc: Jack Zwanziger, Health Policy and Administration, M/C 923
 Edward K. Mensah (Faculty Sponsor), Health Policy and Administration, M/C 923

APPENDIX A (continued)

UNIVERSITY OF ILLINOIS AT CHICAGO

Office for the Protection of Research Subjects (OPRS)
Office of the Vice Chancellor for Research (MC 672)
203 Administrative Office Building
1737 West Polk Street
Chicago, Illinois 60612-7227

Approval Notice Amendment to Research Protocol and/or Consent Document – Expedited Review UIC Amendment # 1

October 20, 2014

Fasika Alem, MPH
Health Policy and Administration
13817 Park Avenue
Dolton, IL 60419
Phone: (773) 732-3589 / Fax: (312) 996-4161

RE: **Protocol # 2014-0885**
“Mentoring and Sexual Health Behavior in College”

Dear Ms. Alem:

Members of Institutional Review Board (IRB) #2 have reviewed this amendment to your research and/or consent form under expedited procedures for minor changes to previously approved research allowed by Federal regulations [45 CFR 46.110(b)(2)]. The amendment to your research was determined to be acceptable and may now be implemented.

Please note the following information about your approved amendment:

Amendment Approval Date: October 20, 2014

Amendment:

Summary: UIC Amendment #1, dated and received October 17, 2014, is an investigator-initiated amendment about making minor changes to the survey instrument. Changes to the questions do not significantly alter the content of the instrument. (Consent Information and Survey, v. 3, 10/17/2014).

Approved Subject Enrollment #: 750

Performance Site: UIC

Sponsor: None

Informed Consent:

- a) Consent Information and Survey; Version 3, 10/17/2014

APPENDIX A (continued)

Please note the Review History of this submission:

| Receipt Date | Submission Type | Review Process | Review Date | Review Action |
|--------------|-----------------|----------------|-------------|---------------|
| 10/17/2014 | Amendment | Expedited | 10/20/2014 | Approved |

Please be sure to:

→ Use only the IRB-approved and stamped consent document enclosed with this letter when enrolling subjects.

→ Use your research protocol number (2014-0885) on any documents or correspondence with the IRB concerning your research protocol.

→ Review and comply with all requirements on the enclosure,
["UIC Investigator Responsibilities, Protection of Human Research Subjects"](http://tiqger.uic.edu/depts/ovcr/research/protocolreview/irb/policies/0924.pdf)
 (<http://tiqger.uic.edu/depts/ovcr/research/protocolreview/irb/policies/0924.pdf>)

Please note that the UIC IRB #2 has the right to seek additional information, or monitor the conduct of your research and the consent process.

Please be aware that if the scope of work in the grant/project changes, the protocol must be amended and approved by the UIC IRB before the initiation of the change.

We wish you the best as you conduct your research. If you have any questions or need further help, please contact the OPRS at (312) 996-1711 or me at (312) 355-2764. Please send any correspondence about this protocol to OPRS at 203 AOB, M/C 672.

Sincerely,

Betty Mayberry, B.S.
 IRB Coordinator, IRB # 2
 Office for the Protection of Research Subjects

Enclosure:

1. Informed Consent Document:

- a) Consent Information and Survey; Version 3, 10/17/2014

cc: Jack Zwanziger, Health Policy and Administration, M/C 923
 Edward K. Mensah, Faculty Sponsor, Health Policy and Administration, M/C 923

APPENDIX B

CONSENT INFORMATION AND SURVEY

Mentoring and Sexual Health Behavior in College

You are being asked to participate in a research study about mentoring relationships among UIC students and how that may relate to sexual health experiences and behaviors. You do not have to be sexually active to participate in this study. We would like to hear from everyone.

You have been asked to participate in the research because you are a UIC student. However, you must be 18 years of age or older to participate. **Your participation in this research is voluntary.** Your decision whether or not to participate will not affect your class standing or grades or your current or future dealings with the University of Illinois at Chicago. You will also not be offered or receive any special consideration if you participate in this research. This research is independently developed and administered by the study investigators.

If you decide to participate, you are also free to withdraw at any time by closing the survey window in your browser.

Approximately 750 students will be involved in this study. The survey has 98 questions and will take approximately **20 minutes** to complete.

You may feel some psychological discomfort in responding to questions about your sexual health and alcohol use behaviors. To the best of our knowledge, the things you will be doing have no more risk of harm than you would experience in everyday life. There may be some risk for loss of privacy or confidentiality, but we will take the necessary protective precautions, including permanently removing all identifiers (email addresses) from the data so that information about who participated in this study is not retained. Additionally, the survey does not ask you for any identifying information about yourself, such as your name, social security, birth date or UIN.

For your participation, you will be offered a **\$5 Starbucks e-gift card** at the end of the survey and you will be asked to enter an email address to have the e-gift card sent to. Email addresses used when purchasing e-gift-cards will be subject to the Starbucks Privacy Policy and may be used for communication regarding transactions on the website (i.e. purchases or accounts) or promotions (brands, products, events, etc.). However, you will have the option to opt out of promotional material. More information is available at <http://www.starbucks.com/about-us/company-information/online-policies/privacy-policy>.

There are no direct benefits from taking part in the study. This study is designed to learn more about the relationship between mentoring and sexual health behavior of college students. You may indirectly benefit from new and improved educational programming and services that campus based programs can implement in the future as a result of findings from this study.

If you have any questions or concerns about this study or your participation in it, you can contact the researcher, Fasika Alem at 773-732-3589 or falem1@uic.edu, or the faculty advisor Dr. Edward Mensah, 312.996.3001 or dehasnem@uic.edu. If you feel you have not been treated according to the descriptions I have given, or if you have any questions about your rights as a research subject, you may call the Office for the Protection of Research Subjects (OPRS) at 312-996-1711 or 1-866-789-6215 (toll-free) or e-mail OPRS at uicirb@uic.edu.

APPENDIX B (continued)

Do you agree to participate in this study?

Yes *[Note to IRB: participants who choose this option will begin the survey]*

No *[Note to IRB: participants who choose this option will be taken to the following message – Thank you for your time. This concludes your participation.]*

1. Do you currently have a person in your life, who is NOT a member of the UIC community (not a UIC faculty, staff or student), who you consider a mentor?

A mentor is defined as someone you can go to for support and guidance or if you need to make an important decision or someone who inspires you to do your best.

☐ Yes

☐ No Skip to Question 12

Please answer the following questions about this person to the best of your knowledge/ability. If you have more than one mentor, please select the most influential mentor and respond to the following questions about this person.

2. What is this person's relationship to you?

☐ Relative

☐ Neighbor

☐ Adult friend

☐ Same-sex friend

☐ Opposite-sex friend

☐ Teacher

☐ Physician

☐ Clergy/Pastor

☐ A student at another university/college

☐ Other (Please specify: _____)

3. What is this person's gender?

☐ Male

☐ Female

4. What is this person's age? (please estimate) _____

5. What is this person's race/ethnicity? (check all that apply)

☐ African American/Black

☐ American Indian/Native American

☐ Asian/Pacific Islander

☐ White/Caucasian

APPENDIX B (continued)

- ☐ Latino(a)/Hispanic
☐ Other ethnicity (please specify: _____)

6. How did you meet this person? _____

7. Who initiated the relationship?

- ☐ I approached the person
☐ I was invited to meet with the person
☐ The person approached me

8. How long have you known this person? _____

If you are unsure about exactly how long you have known this person, was it

- ☐ Less than 6 months
☐ 6 months to 1 year
☐ More than a year

9. How often do you usually communicate with this person?

- ☐ Daily
☐ 2-3 times a week
☐ Once a week
☐ 2-3 times a month
☐ Once a month
☐ Less than once a month
☐ Other (Please specify: _____)

10. How often do you usually see this person face-to-face?

- ☐ Daily
☐ 2-3 times a week
☐ Once a week
☐ 2-3 times a month
☐ Once a month
☐ Less than once a month
☐ Other (Please specify: _____)

11. How do you usually have contact with this person? (Mark all that apply)

- ☐ I usually see him/her in person
☐ I usually talk to him/her on the phone
☐ I usually talk to him/her on e-mail/instant messaging
☐ I usually talk to him/her through text messaging

APPENDIX B (continued)

Tell us about your relationships at UIC.....

12. Do you currently have a person in your life, who is a member of the UIC community (faculty, staff or student), who you consider a mentor? A mentor is defined as someone you can go to for support and guidance or if you need to make an important decision or someone who inspires you to do your best.

- ☐ Yes
☐ No Skip to Question 37

Please answer the following questions about this person to the best of your knowledge/ability.
If you have more than one mentor, please select the most influential mentor and respond to the following questions?

13. What is this person's relationship to you?

- ☐ Faculty
☐ Staff
☐ Advanced undergraduate student
☐ Residence advisor (RA)
☐ Graduate student
☐ Other (please specify: _____)

14. What is this person's gender?

- ☐ Male
☐ Female

15. What is this person's age? (please estimate) _____

16. What is this person's race/ethnicity? (check all that apply)

- ☐ African American/Black
☐ American Indian/Native American
☐ Asian/Pacific Islander
☐ White/Caucasian
☐ Latino(a)/Hispanic
☐ Other ethnicity (please specify: _____)

17. How did you meet this person?

- ☐ Participating in a university-sponsored mentoring program
☐ Seeking academic guidance (e.g., advising)
☐ Seeking professional assistance (e.g., career planning)

APPENDIX B (continued)

- ☐ In class
- ☐ In a residence hall
- ☐ Participating in a social event
- ☐ At the gym
- ☐ At a non-university related event or program
- ☐ Other (Please specify: _____)

18. Who initiated the relationship?

- ☐ I approached the person
- ☐ I was invited to meet with the person
- ☐ The person approached me

19. How long have you known this person? _____

If you are unsure about exactly how long you have known this person, was it

- ☐ Less than 6 months
- ☐ 6 months to 1 year
- ☐ More than a year

20. How often do you usually communicate with this person?

- ☐ Daily
- ☐ 2-3 times a week
- ☐ Once a week
- ☐ 2-3 times a month
- ☐ Once a month
- ☐ Less than once a month
- ☐ Other (Please specify: _____)

21. How often do you usually see this person face-to-face?

- ☐ Daily
- ☐ 2-3 times a week
- ☐ Once a week
- ☐ 2-3 times a month
- ☐ Once a month
- ☐ Less than once a month
- ☐ Other (Please specify: _____)

22. How do you usually have contact with this person? (Mark all that apply)

- ☐ I usually see him/her in person
- ☐ I usually talk to him/her on the phone

APPENDIX B (continued)

☐ I usually talk to him/her on e-mail/instant messaging

☐ I usually talk to him/her through text messaging

Tell us about your relationship with your UIC mentor....

For each statement below, please indicate whether you agree or disagree.

| | Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|--|----------------------|----------|---------|-------|-------------------|
| 23. My mentor takes a personal interest in my education/academics | | | | | |
| 24. My mentor helps me coordinate academic goals | | | | | |
| 25. My mentor has devoted special time and consideration to my education | | | | | |
| 26. I share personal problems with my mentor | | | | | |
| 27. I exchange confidences with my mentor | | | | | |
| 28. I consider my mentor to be a friend | | | | | |
| 29. I try to model my behavior after my mentor | | | | | |
| 30. I admire my mentor's ability to motivate others | | | | | |
| 31. I respect my mentor's ability to counsel others | | | | | |
| 32. I respect my mentor's ability to teach others | | | | | |
| 33. Do you discuss sexual health issues/concerns with your mentor? | | | | | |
| <input type="checkbox"/> Yes | | | | | |
| <input type="checkbox"/> No | | | | | |
| 34. Do you discuss expectations for sexual health behavior with your mentor? | | | | | |
| <input type="checkbox"/> Yes | | | | | |
| <input type="checkbox"/> No | | | | | |
| 35. Has your mentor ever discussed with you what he or she values and supports in terms of sexual health behavior choices? | | | | | |
| <input type="checkbox"/> Yes | | | | | |
| <input type="checkbox"/> No | | | | | |

APPENDIX B (continued)

36. Has your mentor ever provided resources specific to sexual health behavior (e.g., information on where to obtain and how to use a condom, been a source of support and advice for sexual and relationship related concerns)?

☐ Yes

☐ No

Tell us about your experiences....

37. Have you ever had sex?

Yes

No (skip to Question 46)

38. Within the last 30 days, how many times did you have sex?

| | | | | | |
|--------------------------------------|-----------|-----------|-----------|-----------|-----------------|
| Have not had sex during last 30 days | 1-2 times | 3-4 times | 5-6 times | 7-8 times | 8 or more times |
|--------------------------------------|-----------|-----------|-----------|-----------|-----------------|

39. Within the last school year, how many partners, have you had sex with?

| | | | | | | |
|------|---|---|---|---|---|-----------|
| None | 1 | 2 | 3 | 4 | 5 | 6 or more |
|------|---|---|---|---|---|-----------|

40. What was your relationship with the last person with whom you had sex?

Some I just met or a casual friend

Someone I know well but is not a regular/steady partner

A steady partner, a boyfriend or girlfriend

41. Did you use a condom the last time you had sex?

No

Yes

Don't Know/Don't Remember

42. Within the last 30 days, how often did you or your partner(s) use a condom during sex?

| | | | | | |
|--------------------------------------|-------|--------|-----------|--------|--------|
| Have not had sex during last 30 days | Never | Rarely | Sometimes | Mostly | Always |
|--------------------------------------|-------|--------|-----------|--------|--------|

APPENDIX B (continued)

43. **If you have had vaginal intercourse, what method did you or your partner use to prevent pregnancy the last time?**

Have not had vaginal intercourse
 Birth control pills
 Depo Provera (shots)
 Norplant (implant)
 Condoms (male or female)
 Diaphragm/Cervical
 Spermicide (e.g., foam)
 Fertility awareness
 Withdrawal
 Other method
 Nothing

44. **Have you ever been tested for a sexually transmitted infection, including HIV?**

Yes
 No [skip to Question 46]

45. **Have you been tested for a sexually transmitted infection, including HIV, within the last school year?**

Yes
 No

46. **Within the last 30 days, on how many days did you use: Alcohol (beer, wine, liquor)**

| | | | | | | | |
|--------------------------|--|------------|------------|------------|-----------------|-----------------|-------------|
| Never used alcohol | Have used, but not in last 30 days | 1 - 2 days | 3 - 5 days | 6 - 9 days | 10 - 19 days | 20 - 29 days | All 30 days |
|--------------------------|--|------------|------------|------------|-----------------|-----------------|-------------|

47. **Now think back to just the last 2 weeks. How many times, if any, have you had five or more alcoholic drinks at a sitting?**

| | | | | | | |
|------|---------|---------|---------|---------|---------|--------------------|
| None | 1 times | 2 times | 3 times | 4 times | 5 times | 6 or more times |
|------|---------|---------|---------|---------|---------|--------------------|

48. **If you drink alcohol, have you had unprotected sex as a consequence of your drinking within the last school year?**

| | | |
|-----------------|-----|----|
| NA/Do not Drink | Yes | No |
|-----------------|-----|----|

APPENDIX B (continued)

For each statement below, please circle true (T), false (F), or I don't know (DK). If you don't know, please do not guess; instead, please circle DK.

| | True | False | Don't Know |
|---|------|-------|------------|
| 49. Genital Herpes is caused by the same virus as HIV. | T | F | DK |
| 50. Frequent urinary infections can cause Chlamydia. | T | F | DK |
| 51. There is a cure for Gonorrhea. | T | F | DK |
| 52. It is easier to get HIV if a person has another Sexually Transmitted Disease. | T | F | DK |
| 53. Human Papillomavirus (HPV) is caused by the same virus that causes HIV. | T | F | DK |
| 54. Having anal sex increases a person's risk of getting Hepatitis B. | T | F | DK |
| 55. Soon after infection with HIV a person develops open sores on his or her genitals (penis or vagina). | T | F | DK |
| 56. There is a cure for Chlamydia. | T | F | DK |
| 57. A woman who has Genital Herpes can pass the infection to her baby during childbirth. | T | F | DK |
| 58. A woman can look at her body and tell if she has Gonorrhea. | T | F | DK |
| 59. The same virus causes all of the Sexually Transmitted Diseases. | T | F | DK |
| 60. Human Papillomavirus (HPV) can cause Genital Warts. | T | F | DK |
| 61. Using a natural skin (lambskin) condom can protect a person from getting HIV. | T | F | DK |
| 62. Human Papillomavirus (HPV) can lead to cancer in women. | T | F | DK |
| 63. A man must have vaginal sex to get Genital Warts. | T | F | DK |
| 64. Sexually Transmitted Diseases can lead to health problems that are usually more serious for men than women. | T | F | DK |
| 65. A woman can tell that she has Chlamydia if she has a bad smelling odor from her vagina. | T | F | DK |
| 66. If a person tests positive for HIV the test can tell how sick the person will become. | T | F | DK |
| 67. There is a vaccine available to prevent a person from getting Gonorrhea. | T | F | DK |
| 68. A woman can tell by the way her body feels if she has a Sexually Transmitted Disease. | T | F | DK |
| 69. A person who has Genital Herpes must have open sores to give the infection to his or her sexual partner. | T | F | DK |
| 70. There is a vaccine that prevents a person from getting Chlamydia. | T | F | DK |
| 71. A man can tell by the way his body feels if he has Hepatitis B. | T | F | DK |

APPENDIX B (continued)

| | True | False | Don't Know |
|--|------|-------|------------|
| 72. If a person had Gonorrhea in the past he or she is immune (protected) from getting it again. | T | F | DK |
| 73. Human Papillomavirus (HPV) can cause HIV. | T | F | DK |
| 74. A man can protect himself from getting Genital Warts by washing his genitals after sex. | T | F | DK |
| 75. There is a vaccine that can protect a person from getting Hepatitis B. | T | F | DK |

Tell us about you...

76. How old are you? _____

77. What is your gender identity?

Male

Female

Other

78. Are you Latino/Hispanic?

Yes

No

79. How would you describe yourself? (check all the apply)

___ African American/Black

___ American Indian/Native American

___ Asian/Pacific Islander

___ White/Caucasian

___ Latino(a)/Hispanic

___ Other ethnicity (please specify: _____)

80. Which of the following best describes you?

Heterosexual

Gay/Lesbian

Bisexual

Transgendered

Unsure

APPENDIX B (continued)**81. What is your relationship status?**

- Single
- Dating
- In a committed relationship (but not married)
- Married
- Other (Please specify: _____)

82. Where do you live during the school year?

- In campus housing [if not selected, skip to Question 84]
- At home with parents/family
- Off Campus alone
- Off campus with roommates
- Other (please specify: _____)

83. Do you live in a Special Interest Housing Area?

- Yes
- No

84. What year are you in college?

- Sophomore
- Junior
- Senior
- Other (please specify _____)

85. Are you a member of a student organization on campus?

- Yes
- No (if no, skip to Question 87)

86. What type of student organization are you a member of? (Mark all that apply)

- Academic
- Social/Cultural
- Greek/Fraternity/Sorority
- Service/Volunteering
- Residential (e.g., Residence Hall Association)
- Other (please specify: _____)

87. Do you volunteer or engage in community service on campus or in the community?

- Yes
- No

APPENDIX B (continued)

88. Do you or have you participated in any of the following? (Mark all that apply)

Honors College
 African American Academic Network (AAAN)
 Academic Center for Excellence (ACE)
 Latino Academic (LARES)
 CHANCE Program
 TRIO Program
 Native American Support Program
 Urban Health Program
 Women in Science and Engineering (WISE)
 Other (please specify: _____)

| For each statement below, please let us know if it is true of you or not. | Not at all true of me (1) | Somewhat true of me (2) | Moderately true of me (3) | Mostly true of me (4) | Totally true of me (5) |
|---|---------------------------------|-------------------------------|---------------------------------|-----------------------------|------------------------------|
| 89. I often read books and magazines about my faith. | | | | | |
| 90. I make financial contributions to my religious organization. | | | | | |
| 91. I spend time trying to grow in understanding of my faith. | | | | | |
| 92. Religion is especially important to me because it answers many questions about the meaning of life. | | | | | |
| 93. My religious beliefs lie behind my whole approach to life. | | | | | |
| 94. I enjoy spending time with others of my religious affiliation. | | | | | |
| 95. Religious beliefs influence all my dealings in life. | | | | | |
| 96. It is important to me to spend periods of time in private religious thought and reflection. | | | | | |
| 97. I enjoy working in the activities of my religious affiliation. | | | | | |
| 98. I keep well informed about my local religious group and have some influence in its decisions. | | | | | |

APPENDIX B (continued)

Thank you for your time and candid responses. This concludes the survey.

We would like to send you a \$5 Starbucks' e-gift card for your time.

If you would like to claim your gift card, please read the disclosure information below and enter your email address in the space provided and click "submit".

Email addresses used when purchasing e-gift-cards will be subject to the Starbucks Privacy Policy and may be used for communication regarding transactions on the website (i.e. purchases or accounts) or promotions (brands, products, events, etc.). However, you will have the option to opt out of promotional material. Gift-cards can be printed out and redeemed or value can be added to an existing or new Starbucks card. Please review Starbucks' Privacy Policy at <http://www.starbucks.com/about-us/company-information/online-policies/privacy-policy> before entering your email address.

Enter Email Address Here: _____

VITA

Fasika Alem

EDUCATION:

PhD, Health Policy and Administration, UIC, School of Public Health, 2016

MPH, Health Policy and Administration, UIC, School of Public Health, 2001

BA, Biology, Knox College, Galesburg, Illinois, 1997

PROFESSIONAL AND RESEARCH EXPERIENCES:

Research Associate, National Mentoring Resource Center, Chicago, Illinois, May 2015-Present

Graduate Research Assistant, Department of Family Medicine, College of Medicine (COM), University of Illinois at Chicago, January 2012 – May 2015

Health Research Assistant, Office of School Health and Wellness, Chicago Public Schools, Chicago, Illinois, March 2013 – February 2014

Research Consultant, Chicago Taxi Driver Health Assessment Survey, United African Organization, April 2010-November 2010

Assistant Director, The Wellness Center, Office of Student Development Services, University of Illinois at Chicago, August 2007 – November 2010

Graduate Assistant, The Wellness Center, Office of Student Development Services, University of Illinois at Chicago, February 2006 – August 2007; January 2011 – January 2012

Graduate Research Assistant, Mid America Public Health Training Center, University of Illinois at Chicago, July 2004 – August 2006

Data Analysis and Report Writing Team Member, Social Work Education in Ethiopia Partnership (Project SWEEP), UIC, School of Social Work, July 2003 – July 2004

Publications Manager, Mid America Public Health Training Center, University of Illinois at Chicago, January 2002 – June 2004

Graduate Research Assistant, Mid-America Public Health Leadership Institute, University of Illinois at Chicago, January 1999 – May 2001

PROFESSIONAL VOLUNTEER EXPERIENCES:

Board President, Ethiopian Community Association of Chicago (ECAC), Chicago, Illinois, January 2008-January 2012

Advisory Board, Awassa Children's Project, Chicago, Illinois, January 2012 – present

Vice President, Awassa Children's Project, Chicago, Illinois, October 2003 – November 2008 and October 2009 – December 2011

President, Awassa Children's Project, Chicago, Illinois, November 2008 – October 2009

PRESENTATIONS:

Hasnain, M., Oyola, S., Alem, F., Shear, T. Assessing Medical Student Competency in IPV Screening and Management. Women's Health 2016: The 24th Annual Congress, April 2016, Washington DC.

Alem, F. The Health of the African Taxicab Driver in Chicago: Findings from a Health Survey. 2014 Minority Health in the Midwest Conference, February 28, 2014, University of Illinois at Chicago.

Alem, F. The Health of the African Taxicab Driver in Chicago: Findings from a Health Survey. 6th Annual Chicago African Summit and Resource Fair, United African Organization, May 18th 2013, Chicago, IL.

Alem, F. Women and Leadership. United African Organization. Community Leadership Workshop Series. September 25, 2012, Chicago, IL.

Alem, F. Predictors of Sexual Debut Intentions among Incoming College Students: An Exploratory Study. Poster Presentation. 2012 University of Illinois Student Research Forum. April 17, 2012, University of Illinois at Chicago.

Alem, F. Racial Differences in Sexual Behavior and Attitudes among Incoming College Students. Poster Presentation. School of Public Health Research and Award Day. April 3, 2012, University of Illinois at Chicago.

Alem, F. Plenary Session: A Borderless World: Understanding the Ethiopian Identity. BuildEthiopia Conference, Ethiopian Global Initiative, October 21-22, 2011, Cambridge MA.

Alem, F. Youth-Led HIV/AIDS Prevention Education in Ethiopia. 31st Annual Global Health Council Conference: Youth and Health: Generation on the Edge. June 1-4, 2004, Washington, DC.

PUBLICATIONS:

Sohn, A., Hickner, J., and Alem, F. (2016) Use of point of care tests (POCT) by U.S. primary care physicians: A detailed report from an international study. Journal of the American Board of Family Medicine, Accepted for publication

Alem, F. (Jan-Mar, 2005) Young leaders in the fight against HIV/AIDS in Ethiopia. HELM Magazine

Johnson, AK., Linsk., NL., Bright, C., Alem, F., and Getu, M. (2004) Social work education in Ethiopia: Needs assessment report. Jane Addams College of Social Work. Chicago, IL: University of Illinois at Chicago. Unpublished manuscript. Available at <http://www.aboutsweep.org/reports.html>

Markwardt, R. and Alem, F. (2004) Dealing with molds: A summary. Public Health Practice in Illinois 5(3). University of Illinois at Chicago School of Public Health. Available at http://www.uic.edu/sph/phtpg/Content/Documents/Publications/PHPI/PHPI_v5_n3_Environmental_Contaminants.pdf

Ravago, TS., Mosniam, J., Alem, F. (2000) Evaluation of community acquired pneumonia guidelines. [Evaluation Studies. Journal Article] Journal of Medical Systems. 24(5); 289-96

PROFESSIONAL AFFILIATIONS:

American College Health Association

American Public Health Association

Ethiopian North American Health Professional Association