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Sexual Behaviors, Sexual Knowledge, Self-Esteem, and Sexual Attitudes in Emerging Adult Females

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ABSTRACT

Emerging adults, between ages 18 and 25, experience changes in interpersonal relationships, sexuality, world view, and for some, changes in living arrangements that include college (Arnett, 2001; Lefkowitz, 2005). For many college students, this period of intense exploration and change may include increased susceptibility to engage in high-risk behaviors, including sexual behaviors. (Arnett, 1992; Bradley & Wildman, 2002).

Social cognitive theory was used in this study to examine relationships among personal aspects of female emerging adults and their sexual behavior such as sexual attitudes, self-esteem, race, age, and high-risk behaviors in addition to environmental influences such as perceived parental sexual attitudes. Social cognitive theory was a useful framework because it not only considers internal factors involved in individual decision making; it also considers interactions between an individual and their environment.

The most prominent predictor of female college students engaging in sexual behavior was engaging in other high-risk behaviors. Risk behaviors also related to sexually permissive attitudes and attitudes relating to safe sexual practice. The sexual knowledge among emerging adult females was not a good predictor of their sexual behavior, nor was self-esteem. Parental attitude related to sexual behavior for sexual permissiveness and sexual practice.

Therapists and educators would benefit from a depth of understanding the interpersonal reasoning for sexual decision making. Better assessment tools could be developed, specific treatments could be employed, and educational materials modeled on a more clear understanding of what works and what does not work in understanding sexuality related issues.
CHAPTER 1

INTRODUCTION

Emerging adulthood, considered a new life transition phase, is viewed as a time of exploration and experimentation (Arnett, 2001). Emerging adults experience changes in interpersonal relationships, sexuality, world view, and for some, changes in living arrangements that include college (Arnett, 2001; Lefkowitz, 2005). For many college students, moving away from parents offers a new domain of independence, less adult supervision, more pressure from peers, increased self-focus and autonomy, and more opportunity to explore personal values, beliefs, and attitudes (Arnett, 2001; Lefkowitz; Lefkowitz, Boone & Shearer, 2003). As a result, numerous college students engage in behaviors that often place them at risk.

This period of intense exploration and change may make individuals particularly susceptible to engaging in high-risk behaviors (Arnett, 1992; Bradley & Wildman, 2002). One area of concern is sexual behavior among youth adults and subsequent health problems related to sexuality (Baer, Allen, & Braun, 2000; Civic, 2000; Cooper, 2002; Dinger & Parsons, 1999; Johnson, McCaul, & Klein, 2002). People in their late teens and early twenties engage in reckless behavior, including high-risk sexual behavior, more often than any other age group (Arnett, 1996; Gullone, Moore, Moss, & Boyd, 2000; Zuckerman, 1979). The earlier high-risk behaviors start, the higher the odds of engaging in unprotected intercourse during college (Hollander, 2003). Professionals at university health centers are increasingly concerned about the hazards of emerging adult sexuality, including the risk of pregnancy and sexually transmitted infections (STI’s), particularly the spread of acquired immunodeficiency syndrome (AIDS), human immunodeficiency virus (HIV), and other destructive and psychological outcomes that may accompany high-risk sexual behaviors. Adolescent pregnancy and sexually transmitted disease rates in the United States are among the highest of all developed nations (O’Donnell, O’Donnell, & Stueve, 2001; Pistella & Bonati, 1998). Young adults and adolescents who engage in sexual activities have the highest rate of sexually transmitted diseases (i.e., gonorrhea, syphilis, and chlamydia) of all age groups (Miller, Forehand, & Kotchick, 1999; Quinn & Cates, 1992). Approximately one-half of all new HIV infections in the United States occur among people under age 25 (Markham, Tortolero, Escobar-Chaves, Parcel, Harrist, & Addy, 2003). HIV/AIDS is the leading cause of death in people aged 25 to 44 years. Many of the deaths associated with this age group can be traced to unsafe behaviors performed as adolescents or young adults due to the latency interval from HIV infection to the development of AIDS (Prince & Bernard, 1998).

The majority of students attending college directly from high school are exposed to sexuality and HIV/AIDS education. Eighteen states require that sexuality education be taught in all public school systems, and 34 states require that schools offer STD/HIV education (Kirby, 2002; NARAL Foundation, 2000). Therefore, the controversy surrounding sexuality and HIV education has shifted from whether this information should be taught at all, to which specific topics should be emphasized and which messages are appropriate for adolescents and emerging adults. At the forefront of this debate is the relationship between sexual knowledge and sexual behaviors.

There is no clear evidence to support associations between sex education and a decrease in sexual behaviors among adolescents and emerging adults. Although some researchers (e.g., Kirby, 2002) found relationships between formalized sex education and behavior, others (Hays & Hays, 1992; Shapiro, Radecki, Charchian, & Josephson, 1999) reported inverse relationships. For example, Somers and Gleason (2001) asserted that increased sexual education from family members was related to increased sexual behavior and more liberal attitudes among high
school students. In addition, adolescents having knowledge of sexual biology, sexuality, AIDS, or birth control did not inevitably stop engaging in unprotected sex or unreliable contraceptive use (Jacobsen, Aldana, & Beaty, 1994; Melchert & Burnett, 1990; Moore & Rosenthal, 1992). Kirby (2001) concluded that most formal sex and HIV education programs produced participants with increased knowledge. However, few programs produced changes in sexual risk-taking behaviors, such as increasing the use of contraception, heightened use of barrier protection methods, (i.e. condoms or dental dams), or a reduction in the number of sexual partners.

Regardless of the type of sexuality education received before attending college, many college students do not act in accordance with that knowledge. According to the Center for Disease Control National Prevention Information Network (n.d.), having multiple sexual partners increases the likelihood of contracting an STI. Busamante (1992) indicated that more than 80% of the students in his sample, males and females, reported having had two or more sexual partners since entering college (40.2% of his sample were college freshmen). Moreover, condom use is considered vital as a protectant against STIs. The Center for Disease Control Youth Risk Behavior Surveillance (2003) indicated 37% of sexually active adolescents reported not using a condom during their last sexual encounter. Dinger and Parsons (1999) reported that about half of their sample did not use a condom during their last sexual intercourse, and when asked how often they or their partner used condoms, the most frequent response was “never”. These results did not differ by gender.

In contrast, Prince and Bernard (1998) reported significant differences in the rates of condom use among males and females, with more men reporting condom use 100% of the time and fewer men reporting that they never used condoms as compared to women. Women were more likely to practice HIV/AIDS communication strategies with their partner than men; however, this did not correlate with increased condom use. Even when students reported a strong knowledge of HIV/AIDS, it did not appear to influence condom use (Lewis, Malow, & Ireland, 1997; Prince & Bernard, 1998). This was especially true for women. Carroll (1991) denoted that the HIV/AIDS knowledge of college females was unrelated to condom use, frequency of sexual occurrences, and number of lifetime sexual partners. In contrast, men who had more knowledge about HIV/AIDS reported less intercourse, more condom use, and indicated changing behaviors in response to a personal health threat.

There appears to be conflicting results regarding the relations between a person’s level of self-esteem and their propensity to engage in high-risk sexual behaviors. Self-esteem can be associated with one’s perceived level of competency in effectively carrying out the necessary behaviors and cognitions to produce a successful outcome, (i.e. self- efficacy) (Becker, 2000). Whereas Langer, Warheit, and McDonald (2001) found no significant link between self-esteem and risky sexual behavior in a multi-racial sample of university students, other researchers have suggested that lower levels of self-esteem are associated with high-risk sexual behavior (Chilman, 1979; Keeling, 1991; Miller, Christensen, & Olson, 1987). Adolescents who reported lower levels of self-definition, self-acceptance, self-esteem, and self-determination were more apt to engage in high-risk sexual behaviors than were adolescents with higher self-esteem (Hollar & Snizek, 1996; McNair, Carter, & Williams, 1998). In addition, Keeling (1991) hypothesized that students with higher levels of self-esteem may place a higher priority on their health and have elevated levels of accountability and responsibility for their actions resulting in the acceptance of protective health behaviors.

Younger people with higher levels of self-esteem might feel that they are invincible and protected from harm, which may lead to engaging in high-risk behaviors (Hagenhoff, Lowe, Hovell, & Rugg, 1987). To reduce the anxiety caused by engaging in high-risk behaviors that can lead to unwanted health consequences (i.e., HIV or STI’s) and to protect self-esteem, emerging adult females might refute or evade information that implies their behavior is risky
Of the 411 female adolescents in their study, 51% underestimated their sexual risk behaviors, yet, there were no significant differences in self-esteem levels for those engaging in high-risk sexual behaviors and those with lower or no risk. McNair, et al. (1998) also found an association between higher self-esteem and lower levels of risk perception suggesting that those with high self-esteem may create an illusion of safety for themselves and their partners, allowing them to feel freer to engage in risky behaviors. Hollar and Snizek (1996) reported that college students with high self-esteem and high levels of HIV/AIDS knowledge engaged in high-risk, yet conventional, sexual behaviors (i.e., unprotected vaginal/penile intercourse, multiple sexual partners, and engaging in sexual intercourse with someone who has had multiple sexual partners). They hypothesized that participating in high-risk sexual behaviors might essentially increase a person’s self-esteem by providing an external source of instant self-esteem gratification that fulfills the need for continual recognition, thus boosting their status within the college culture. When a college student engages in high-risk sexual behavior with no negative consequences (i.e., pregnancy, contracting an STI or HIV/AIDS), the behavior may be reinforced.

Self-esteem’s relationship with sexual behavior may be more complex than the above studies indicate. For example, self-esteem is linked to sexual attitudes (Werner-Wilson, 1998). Miller, et al. (1987) found that self-esteem is positively associated with sexual intercourse for adolescents who believe that intercourse is always acceptable, but negatively linked for those who believe it is improper. They also noted that personal values and attitudes about sex were related to sexual behavior. For example, engaging in sexual behaviors that are inconsistent with personal values was associated with emotional distress and lower self-esteem.

Parents and peers are the socializing influences most often indicated by adolescents as having the largest impact on their knowledge, values, and attitudes about sex (Jensen, deGaston, & Weed, 1994; Miller & Fox, 1987). In a study of 65 female college students, parents were reported as having a great deal of influence on the emerging adults’ beliefs, opinions, and attitudes regarding sexuality (Sanders & Mullis, 1988). In a review of over 300 studies on risk and protective factors for adolescent sexual risk-taking, Kirby (2001) noted a relationship between greater attachment to family, later initiation of sex and less frequent intercourse. Adolescents who sensed that their parents trusted them were less likely to engage in risky sexual behaviors (Borawski, Ievers-Landis, Lovegreen, & Trapl, 2003; Li, Feigelman, & Stanton, 2000; Li, Stanton, & Feigelman, 2000; Rodgers, 1999). Shoop and Davidson (1994) reported that adolescents who were able to discuss sensitive sexual issues with their parents were more competent in discussing AIDS issues with their partners. Similar results were found among sexually active Black and Hispanic adolescents (Whitaker, Miller, May, & Levin, 1999). Competence in discussing sexual issues with one’s partner is vital, as those adolescents who feel competent in discussing AIDS concerns with their partner are 10-17 times more likely to report using condoms than those who feel tentative about AIDS communication (Shoop & Davidson, 1994).

There is some evidence that parent-adolescent relationships are not associated with adolescent sexual behavior. In a study of 298 high school students, Rosenthal and Feldman (1999) noted that adolescents rated parental communication about sexuality as unimportant. In other households, the parent-adolescent communication had no effect on adolescent sexual behavior. For example, Somers and Paulson (2002) found that higher levels of parental closeness in combination with parental communication did not have any significant influence on adolescents’ sexuality. They also found that greater parental communication resulting in increased sexual knowledge was related to greater sexual behavior among adolescent high school students.
Although parent-adolescent communication and strength of relationship (i.e., attachment) has been studied extensively in regard to sexual behavior, there is little research that explores the relationship between parental attitudes towards sexuality and the sexual behavior of emerging adults. Parental attitudes about sexual behavior may affect the behaviors of their college-aged children. Parents who communicated traditional sexual values seemed to have greater influence on their adolescent’s virginity status than did parents with more liberal values (Kirby, 2001; Miller & Fox, 1987). Conversely, Fisher (1988) indicated that college students whose parents reported both permissive and conservative attitudes toward sex had a greater likelihood of engaging in premarital sexual behavior. Based on earlier findings, exploring the degree of congruence between the sexual attitudes of college students and their parents may add to the breadth of understanding emerging adult sexual behaviors.

Sensation seeking behaviors have been linked to a variety of sexual behaviors (Zuckerman, Tushup, & Finner, 1976). The quest for novel and intense sensations is a motivator of a multiplicity of reckless behaviors in adolescents and young adults (Arnett, 1996). Arnett (1996) found that the frequency of reckless behaviors, such as sex without contraception and sex with someone known only casually, were higher for college students than others in the sample. Analysis of data from 14,000 college student from 119 4-year colleges in the United States, Hollander (2003) showed that those who engaged in early binge drinking behavior (another high risk behavior) reported higher incidences of unplanned and unprotected intercourse in college. Although this research did not propose why early alcohol use was associated with greater incidences of later high-risk sexual behavior, the author suggested that those who engaged in one high-risk behavior, may be predisposed to engage in others. The concept of reckless behavior has not been linked to self-esteem or sexual attitudes.

The majority of the studies on sexual behavior and attitudes of college students used samples consisting of predominantly White students. However, when condom use among Blacks has been examined, Black women were found to hold more negative attitudes toward condom use as compared to White women (Valdiserri, Arena, Proctor, & Bonati, 1989). Black college men and women with multiple sex partners considered condoms more uncomfortable and inconvenient to use than did Black students who reported having only one sexual partner (Johnson, Gant, Hinkle, Gilbert, Willis, & Hoopwood, 1992). Although there has been attention given to age variability in the adolescent population, there has been no attention to age variability in college student samples; most students have been grouped together (Civic, 2000; Dilorio, Dudley, Soet, Watkins, & Mailbach, 2000; Dinger & Parsons, 1999; Knox, Cooper, & Zusman, 2001). As the population on campuses becomes more diverse, both racially and by age, there is an increased need to include race and age factors in the study of sexual knowledge and behavior.

There has been conflicting and inconsistent findings in the current literature relating the sexual behavior of emerging adult college students with their sexual knowledge, self-esteem, and sexual attitudes. For example, parental attitudes may have some effect on the sexual behavioral choices of emerging adults. However, it remains unclear whether these young adults act on the perceived attitudes once they are living independently in a college setting. Self-esteem of emerging adults has been related to their sexual behavior, but the direction and magnitude of this relationship remains unclear.

**Purpose of the Study**

The purpose of this study was to investigate relationships between the sexual behavior, sexual knowledge, self-esteem, sexual attitudes, and risk behavior in college women. The following questions were addressed:
1. Is there a relationship between the sexual behavior and the sexual knowledge of emerging adult women?
2. Is there a relationship between sexual behavior and self-esteem among emerging adult women?
3. Is there a relationship between the sexual behavior and sexual attitudes of emerging adult women?
   a. Does the relationship change when self-esteem is partialed out?
4. Is there a relation between the sexual behavior and the perceived sexual attitudes of the parents of emerging adult women?
5. Does the relationship between sexual behavior and sexual attitudes among emerging adult women differ as a function of self-esteem?
6. Is there a relationship between the sexual behavior and risk behavior of emerging adult women?
   a. Does this relationship change when self-esteem is partialed out?
   b. Does this relationship change when sexual attitude is partialed out?

Definitions

Sexual knowledge is defined as comprehension of general human sexual development, contraceptive methods, male and female reproductive anatomy, and sexually transmitted diseases as measured by the 24-item version of the Miller-Fisk Sexual Knowledge Questionnaire (Gough, 1974). The Instrument was designed for use in educational settings and as a screening device to measure knowledge of a range of aspects of sexuality with adolescents.

Sexual behavior is defined as heterosexual and homosexual kissing, breast and genital touching, oral-genital contact, and coitus. This variable is operationalized by using a revised version of the Sexual Experience Inventory (Brady & Levitt, 1965a, 1965b) which reflects female only behaviors.

Sexual attitudes were defined in four dimensions: permissiveness, sexual practices, communion in the relationship, and instrumentality as measured by the Hendrick Sexual Attitude Scale (HSAS) (Hendrick & Hendrick, 1987). Parental sexual attitudes were defined using a revised version of the same scale. The female students were asked the identical questions from the perspective of their most influential parent or guardian.

Self-esteem is defined as an individual’s overall self-evaluation (positive and negative regard for self) (Longmore & Demaris, 1995; Rosenberg, 1979) as measured by the Rosenberg Self-Esteem Scale (Corcoran & Fischer, 2000; Rosenberg, 1965).

Risk behavior is defined synonymously with reckless behavior as those behaviors that incorporate strong associations of serious negative consequences, including personal injury or death, or other events that may have long term negative impact (Gullone, et. al, 2000).
CHAPTER 2
REVIEW OF THE LITERATURE

This chapter examines the pertinent literature as it relates to sexual behavior, sexual knowledge, sexual attitudes, parental attitudes, self-esteem, and risk behavior. Theoretical considerations for these concepts are explored in the context of social cognitive theory. The significance of viewing the concepts within the confines of race and age also are addressed.

Sexual Behavior

The focus of adolescent and emerging adult sexual behavior has changed over the past decades. “The changes in sexual attitudes and behaviors observed during the late 1960s and throughout the 1970s were so evident they were viewed as a sexual revolution” (Dunn, Knight, & Glascoff, 1992, p. 99). The advent of effective and safe birth control in the 1960’s brought controversy over cohabitation and the acceptance of non-marital sexual relationships among college students in the 1970’s. A focus on sexual violence (i.e., date rape) and the increasing social acceptance of homosexuality marked the 1980’s. This decade was led by concerns about HIV and AIDS not only on college campuses, but also across the nation. Possibly due to the increased knowledge of HIV/AIDS and the continued rise in sexual activities among adolescents and emerging adults, the 1990’s offered unprecedented increases in sexuality education in the public arena. As the new millennium is well underway, researchers remain unclear as to if the messages of self-protection and increased education about the dangers of risky sexual activities have influenced the sexual behaviors of adolescents and emerging adults. Thus, information is essential in determining which contextual elements play a part in safe sexual behavior decisions.

According to the Spring 2000 National College Health Assessment, 4 out of 5 college students reported that they have had sexual intercourse during their lifetime; one in four have had six or more sexual partners; less than 38% reported using a condom during their last intercourse experience (Fields, 2002). Civic (2000) found that the majority of sexually active college students report not using a condom because they felt that their partner was safe from disease and they knew their partner’s sexual history. This held true in relationships that began as early as 1 month prior to the study. Keller (1993) found similar results in her study indicating that participants believed that they could identify whether a partner was infected without objective evidence. Participants indicated that they either believed that it was safe to engage in unprotected sex with their partner or that they simply assumed that their partner was not infected. Basing important life altering choices on non-factual information puts students at high-risk for a multitude of sexually related infections and illnesses. Relying on the truthful sharing of sexual history information, instead of objective HIV or STI test results, does not guarantee that a partner is free from disease or infection. Engaging in intercourse with just one additional person is not safe if that person is infected with HIV/AIDS or a STI.

Adding additional risks to this decision making process are the generous fraction of emerging adult college students who lie to potential sex partners about their sexual histories (Cochran & Mays, 1990). Most sexually active men and women on college campuses trust their partner’s affirmation of monogamy (Siegel, Klein, & Roghmann, 1999) and indicate low condom use based on being in a monogamous relationship (Koniak-Griffin, Lesser, Uman, & Nyamath, 2003). However, serial monogamy or serial sexual exclusivity frequently typifies the sexual activity pattern of most emerging adult college students. College students who reported currently being in a monogamous relationship also reported having more than one sexual partner particular situation or situations represents expectancy (Rotter, 1982). Behaviors that are
in the past year, usually in a previous monogamous relationship (Keller, 1993; Prince & Bernard, 1998; Reinisch, Hill, Sanders, & Ziembadavis, 1995). Those who reported being in a monogamous relationship also reported having had sexual contact with at least one other person during that same period (Fierros-Gonzalez, & Brown, 2002). Thus, it is evident that college students are not making reliable choices when it comes to sexual behavior based on the knowledge in which they have been exposed.

**Theoretical Considerations**

Social cognitive theory is used to examine the association of sexual behaviors and sexual knowledge, self-esteem, and sexual attitudes. Although the early founders of social cognitive theory did not apply their concepts to sexual behavior, sexual pleasure and expectancies are among the most compelling reinforcers in human experience (Hogben & Dyrne, 1998). Social cognitive theory suggests that people learn how to behave in social situations by paying attention to the environment around them and reacting or responding to the environment and its stimuli. This assumption implies that behaviors, including sexual, can be taught. Parents and peers are the socializing force most often indicated by adolescents as having largely influenced their knowledge, values, and attitudes about sex (Jensen, de Gaston, & Weed, 1994; Miller & Fox, 1987). However, other groups such as work units, schools, churches, community organizations, fraternities, and sororities also can serve as primary socialization assemblies. The influence, or learning, from these people or groups comes about by communication and by modeling. Parents, who communicate traditional sexual values, seem to have added bearing on adolescent virginity status than do parents with more liberal values (Miller & Fox, 1987). Darling and Hicks (1983) found that when parents focused on restrictive messages about sexuality (i.e., sex is dangerous; sex is dirty; good girls don’t), female college students held more negative sexual attitudes.

Modeling and imitation are commanding methods of promoting new behavior in social cognitive theory. Attitudes and motives favorable to certain behaviors, including those that may be harmful, are learned through direct modeling or imitation of peer behavior (Benda & DiBlasio, 1991). Daughters of single women become sexually active more frequently and at younger ages than those in two-parent homes (Miller & Fox, 1987). This suggests that dating mothers may be modeling more overt non-marital sexual behaviors.

According to social cognitive theory, behavior is learned from social interactions and through a process of differential reinforcement. Differential reinforcement refers to the perception of the relative balance of rewards and costs following a behavior. Behavior is strengthened and continued when rewarded (positive reinforcement); when punished (negative reinforcement), it is avoided. Also, it is weakened by aversive stimuli or loss of reward. When examining social cognitive theory constructs and adolescent sexual exploration, Benda and DiBlasio (1991) found that sexually active adolescents believed that the rewards of engaging in sexual behavior outweighed the costs. This claim was further substantiated in a later study (Benda & DiBlasio, 1994) of high school adolescents, where they found that the perception of the rewards of sex was especially important for females.

A person’s need satisfaction is controlled by other people along a continuum of expectancy and an individual’s preference for a particular reinforcement. A person’s anticipation that a particular reinforcement occurs as a result of a particular behavior in a acquired and endure depend on a consideration of past, present, and anticipated rewards or punishment for that behavior, and those attached to substitute behaviors (Boeringer, Shehan, & Akers, 1991). People can develop anticipatory responses to signaling stimuli based on what they are told about the experience without directly encountering it for themselves (Bandura, 1977, 1999). For example, a college student can become sexually aroused by seeing a sexual image or imagining a sexual encounter, even if they have never actually experienced one. On the other
hand, a sexual image might elicit the potential for disease, unwanted pregnancy, or immoral conduct, promoting avoidance on the part of another college student. The assumption of expectancy is important, as one behavior can be selected over another or escalated in frequency without direct reinforcement (Hogben & Dyrne, 1998). Also, reinforcement can be direct or vicarious. Merely observing others being reinforced for particular behaviors encourages the observer to engage in the same or similar behavior (Benda & DiBlasio, 1991).

Self-Efficacy and Social Control

The continuum of expectancy relates to two factors: (a) self-efficacy, one’s beliefs in his competence to organize and implement the courses of action required to manage potential situations (Bandura, 1999), and (b) locus of control, whether a person expects reinforcement to come from their own efforts (internal control) or from external factors (external control) such as fate, luck, or the power of others (Krech, Crutchfield, Livson, Wilson, & Parducci, 1982).

Self-esteem relates to self-efficacy and locus of control, as self-esteem can be associated with one’s perceived level of competency (self-efficacious thinking) in successfully carrying out the necessary behaviors and cognitions to produce a successful outcome (internal locus of control) (Becker, 2000). People develop their own internal set of standards for success. Self-esteem is developed by assessing and comparing these standards to others and to the larger society (Feldman, 2006) and by accumulating incidents of successes and failures during daily life experiences and during competence challenging experiences (Newman & Newman, 2006). Whereas self-efficacy relates to one’s internal beliefs of competence in specific situations, self-esteem is an evaluative dimension of the self that appears to incorporate the concepts of competence and locus of control with an emphasis on successful or unsuccessful personal experiences and perceived social approval (Newman & Newman, 2006). The concept of self-esteem is important for this study as its broader definition can be associated with a sense of competency of behaviors, personal attitudes and those of others (i.e., parents), and risk behaviors.

Similar to the concept of a sense of personal mastery, if a person’s overall self-esteem is positive, she believes that she is good at and can accomplish most things and vice versa. Expectations of personal mastery affect both induction and determination of behaviors. The strength of a person’s assurance in their own effectiveness is apt to effect whether she participates in certain behaviors and within particular situations (Bandura, 1977; Feldman, 2006; Newman & Newman, 2006). Self-efficacy was found to be the strongest predictor of condom use among sexually active men in Ghana (Adih & Alexander, 1999) and among college students (Basen-Enquist, 1994). Condom users with a high sense of self-efficacy were likely to focus on positive outcomes such as prevention of pregnancy, protection from disease, and successful use of condoms; those with a lower sense of self-efficacy tended to focus on negative outcomes that undercut their attempts to use condoms, such as embarrassment and lack of spontaneity (Diloria, et al., 2000).

However, a sense of perceived mastery alone may or may not be an accurate predictor of sexual risk behavior. People may misperceive the dangers of engaging in risk behavior, including high-risk sexual behaviors, as willfully admitting to engaging in self-destructive behavior can jeopardize one’s self-esteem and cause anxiety (Kershaw et al., 2003). To reduce the anxiety caused by engaging in high-risk behaviors that may lead to unwanted health consequences (i.e., HIV or STI’s) and to protect self-esteem, emerging adults females might refute or evade information that implies her behavior is risky (Kershaw et al., 2003). Theoretically, when a college student engages in high-risk sexual behavior with no negative consequences (i.e., pregnancy, contracting an STI or HIV/AIDS), the behavior is reinforced. It is
further reinforced, vicariously, if the family or peer group also is engaging in these behaviors with no negative consequences.

Drawing on social cognitive theory, emerging adult sexual behavior is influenced by interactions with their environment and their cognitive ability. Sexuality and its perceived rewards are a significant theme in the adolescent and emerging adult culture for generations (Fields, 2002). This is often at odds with the messages received from parents and some social establishments and religious institutions. The pressure to engage in sexual behavior for the perceived rewards (i.e., personal pleasure, social acceptance, etc.) without the counter balance of perceiving the potential negative consequences (i.e., unwanted pregnancy, STIs, and HIV/AIDS) can put many emerging adults at risk. To develop strategies that decrease risk-taking behaviors in this population, there is a need to advance our understanding of why college-aged adults engage in behaviors that put them at risk for disease and even potential death. Social cognitive theory can be examined for intervention approaches as participants can learn risk reduction behaviors from observing and interacting with others who make safe sexual choices and promote healthy sexual behaviors or abstinence.

**Sexual Knowledge**

It is logical that the more knowledge and experience a person has regarding the risks of unprotected sexual behaviors, the more likely that person would be to make knowledgeable decisions to protect her. However, there is no definite resolution as to the effectiveness of sex education as it correlates to sexual knowledge. Some studies point to important relationships between formalized sex education and increases in safe sex behaviors. Somers and Gleason (2001) found that more education on sexuality does not necessarily lead to more behaviors that are sexual. Somers and Paulson (2000) found that adolescents who felt vulnerable to unwanted pregnancy were more likely to seek information needed to avoid it. Although the college students in one study (Feigenbaum, Weinstein, & Rosen, 1995) did not change their attitudes about such issues as abortion, premarital, casual, or oral sex as a result of taking a health and human sexuality course, they did report significant attitudinal and behavioral changes regarding safer sex practices, (i.e., having fewer sex partners, and using condoms and spermicides) after completing the course. As a result of an educational intervention administered to college students, Fisher, Fisher, Misovich, Kimble, and Malloy (1996) discovered significant increases in AIDS preventive behaviors at post-test and long-term follow-up.

However, many researchers have found that adolescents and emerging adults who have knowledge of sexual biology, sexuality, HIV/AIDS, STIs, or birth control did not inevitably stop engaging in unprotected sex, unreliable contraceptive use, or high-risk sexual behaviors (Bustamante, 1992; Hays & Hays, 1992; Jacobsen et al., 1994; Koniak-Griffin et al., 2003; London & Robles, 1992; Moore & Rosenthal, 1992; Simkins, 1994). Kirby (2001), along with a World Health Organization review on AIDS (Grunseit, Kippax, Aggleton, Baldo, & Sulkin, 1997), concluded that most formal sex and HIV education programs produced participants with increased knowledge, yet, few produced changes in sexual risk-taking behaviors, such as increasing the use of contraception, heightened use of barrier protection methods (i.e., condoms or dental dams) or a reduction in the number of sexual partners.

Thus, research provides no definitive evidence that educating adolescents and emerging adult college students about the risk involved in unprotected sex has decreased their high-risk behavior (Hays & Hays, 1992; Shapiro et. al, 1999). Still others have found inverse relationships between engaging in high risk sexual behaviors and having the knowledge to protect oneself
(Somers & Gleason, 2001). Sexuality choices and decision making may be more complex than just keeping oneself safe based on the knowledge of disease and pregnancy prevention.

Kirby (2001) emphasized the role of family attachment, parental supervision, and family values as impacting adolescent sexual behavior. College life offers students opportunities for greater independence and self-governance. Because it is within this new culture and structure of autonomy that students must learn to maneuver regarding sexual decisions and behaviors, it can by hypothesized that contextual variables such as self-esteem, sexual attitudes, and perceived parental sexual attitudes must be taken into consideration as they relate to sexual behavior.

**Self-Esteem**

The link between self-esteem and sexual behavior is well studied (e.g., Chilman, 1979; Hollar & Snizek, 1996; McNair et. al., 1998; Miller et. al., 1987). There are three schools of thought regarding the role of self-esteem and its association with sexual behavior. One school suggests that there is a relationship between low self-esteem and engaging in high-risk sexual behaviors (i.e., if one has low self-esteem, she is more likely to engage in high-risk sexual behaviors like unprotected intercourse) (Hollar & Snizek, 1996; McNair et. al., 1998). Another school suggests that there is a relationship between high self-esteem and high-risk sexual behaviors (i.e., if one has high self-esteem, she is more likely to feel invincible and thus feel more free to engage in high-risk sexual behaviors) (Hagenhoff et. al., 1987). The last school suggests that there is no association between self-esteem and sexual behavior (Langer et. al., 2001: Small & Luster, 1994).

Self-esteem is defined as the judgment one makes regarding his or her overall self-worth (Papalia, Olds, & Feldman, 2004). It is associated with one’s perceived level of competency in successfully carrying out the necessary behaviors and cognitions to produce a successful outcome (i.e., self-efficacy) (Becker, 2000). Some studies found no significant correlation between level of self-esteem and engaging in high-risk sexual behavior. For example, Langer et al. (2001) found no significant link between self-esteem and risky sexual behavior in a multi-racial sample of university students ranging in age from 17 to 27 years. Small and Luster (1994) found similar results in 2,168 mid-western high school students.

Some earlier studies suggested that lower levels of self-esteem were associated with high-risk sexual behavior and more permissiveness (e.g., Chilman, 1979; Keeling, 1991; Miller et al., 1987; Sprees, 1987). Adolescents who reported lower levels of self-definition, self-acceptance, self-esteem, and self-determination were more apt to engage in high-risk sexual behaviors than were those adolescents with higher self-esteem levels (Hollar & Snizek, 1996; McNair et al., 1998). Miller et al. (1987) found that decreases in self-esteem were associated with more permissive sexual attitudes and sexual behavior, and increases in self-esteem were associated with less permissive (more conservative) sexual attitudes and sexual behaviors. Students with higher levels of self-esteem may place an elevated priority on their health and have enhanced levels of accountability and responsibility for their actions, which may lead to more self-protective sexual behaviors (Keeling, 1991).

Conversely, Hagenhoff et al. (1987) suggests that young people with higher levels of self-esteem may feel that they are invincible and protected from harm, which may lead to engaging in high-risk behaviors. Hollar and Snizek (1996) found that college students with high self-esteem and high levels of HIV/AIDS knowledge engaged in high-risk, yet conventional, sexual behaviors (i.e., unprotected vaginal/penile intercourse, multiple sexual partners, and engaging in sexual intercourse with someone who has had multiple sexual partners). They hypothesized that participating in high-risk sexual behaviors may have increased a person’s self-esteem by providing an external source of instant gratification that fulfilled the need for continual recognition, thus boosting their status within the college culture. Those with high
levels of self-esteem may perceive lower risk levels for themselves and for their partners (Kershaw et al., 2003; McNair et al., 1998). Kershaw et al. (2003) found no significant differences in the self-esteem levels of those engaging in high-risk sexual behaviors and those not. They also reported that 51.0% ($n = 411$) of their sample of female adolescent underestimated their sexual risk. They hypothesized that underestimation or denial of risk may occur to protect self-esteem and lower the anxiety of engaging in sexual risk behaviors which may result in unwanted and serious consequences. McNair et al. (1998) found an association between higher self-esteem and lower levels of risk perception, suggesting that those with high self-esteem created an illusion of safety for themselves and their partners, allowing them to feel freer to engage in risky behaviors. When a college student engages in high-risk sexual behavior with no negative consequences, (i.e., pregnancy, contracting and STI or HIV/AIDS), the behavior might be reinforced.

Self-esteem’s relationship with sexual behavior is likely more complex than the above studies indicated. The inconsistency in findings of the research stresses the importance of studying the multifaceted relationship of sexual behavior within a contextual arena, as possible links between sexual behavior and self-esteem have been implied in relation to sexual attitudes. It has been linked strongly to sexual attitudes (Werner-Wilson, 1998). For example, Miller et al. (1987) found that self-esteem was positively associated with engaging in sexual intercourse for adolescents who believed that intercourse is always acceptable, but negatively linked for those who believed it is improper. They also found that personal values and attitudes about sex were related to sexual behaviors. For example, sexual behaviors that are incongruent with personal values were associated with emotional distress and lower self-esteem.

The research indicates that the ways in which self-esteem is related to sexual behavior are complicated. Because emerging adult college students continue to make sexual behavioral choices that put them at risk in spite of having knowledge of disease and prevention measures, other influential factors need to be studied. When emerging adults feel that they are capable of making positive health decision and have the confidence to do so in the face of pressure (high self-esteem), they are more likely to choose healthy alternatives.

**Sexual Attitudes**

Parents are considered a main agent of sexual socialization. Parents help develop a person’s concept of personal morality and influence an individual’s reaction to moral transgressions (Dittus, Jaccard, & Gordon, 1999; Propper & Brown, 1986). Congruent with social cognitive theory, parents convey information about specific beliefs by social modeling, nonconscious reactions and behaviors and by intentionally exposing their children to information and experiences which they believe will shape their beliefs about sexuality (Dittus et. al, 1999). Therefore, if an individual’s sexual behavior puts them in a moral dilemma, they may experience guilt (Propper & Brown). Further, people likely experience guilt about sexual behaviors due to the attitudes their parents communicated to them (Crooks & Baur, 1980; Kelly, 1981). Hetherington and Parke (1979) found that the degree of parental restrictiveness or permissiveness influences the social and cognitive development of a child. Propper and Brown found a significant relationship between the sex guilt of 48 female college students and their perceived family sexual attitude. In other words, the more restrictive they perceived their family sexual attitude, the more sex guilt they reported.

Darling and Hicks (1983) suggested that parents influence the sexualization of their children through direct communication (i.e., discussion and instruction) and through non-direct attitudinal communications (i.e., expression of feelings and parental displays of affection). They found that female college students more often heard and internalized strong restraining and negative sexual messages from their parents, associated with problematic sexual attitudes.
Positive sexual attitudes were linked with less restrictive parental sexual messages. In a study of 65 female college students, Sanders and Mullis (1988) reported parents as having a great deal of influence on the sexual opinions, beliefs, and attitudes of their children. Similar results were reported by Fisher (1988) in a study of approximately 355 families of college students. The influence was especially strong between mothers and daughters, as adolescents and college females tend to have beliefs and attitudes about sexuality similar to their mothers (Dittus et. al, 1999; Sanders & Mullis, 1988).

Parents and families are not the only socializing agents for college students. Peer approval is paramount, especially in adolescence. Like adolescents, college students likely weigh the rewards and costs of their behaviors and experiences based on the feedback of their peer group. Current research estimates that 79.5% of college students age 18-24 have been sexually active in their lifetime (Center for Disease Control, 1997). Over two-thirds (68.2%) of the college students surveyed reported having had sexual intercourse within 3 months of completing the survey. Research confirms a positive relationship between having sexually active adolescent relatives and friends, and being a sexually active adolescent. Differential association refers to a person’s interaction with primary groups where they are exposed to and incorporate the positive and negative norms of that group (Boeringer et al., 1991). Benda and Corwyn (1998a; 1998b) recounted several studies that asserted differential peer association with those who are sexually active as one of the strongest predictors of Caucasian adolescent sexual exploration.

Based on Bandura’s theoretical framework, sexual behavior hinges on the interaction between environment and cognitive skills. Thus, risky sexual behavior may be the result of deficient cognitive skills (i.e., in the ability to resist peer pressure) (Hogben & Dyrne, 1998). Peer groups in which sexual behaviors are reinforced and encouraged provide the communicational contexts in which attitudes, motives, and rationalizations favoring sexual engagements are learned (Benda & DiBlasio, 1991). In contrast, peer groups in which sexual behaviors are not reinforced or are not rewarded provide attitudes, support, and rationalizations promoting alternative values and behaviors.

During adolescence and particularly during college when an emerging adult is usually living independently for the first time, peer groups become especially influential. This holds true for those who have weak attachments with parents or other groups. Boeringer et al. (1991) discussed the importance of fraternities as primary socialization groups because they blend components of both friendship and family connections. Intimate sexual experiences can be a significant representation of interpersonal connection, reinforcing a need for lost familiar attachments or supplying an essential connection of feeling loved and needed. Benda and Corwyn (1998b) found that women of color in a rural Arkansas population had sex to achieve attachment and to feel loved. Lack of parental or group bonding may account for some adolescent attachments to peer groups that reinforce sexual exploration.

Because sexual attitudes influence sexual behavior and sexual decision making, it is important to more completely understand the possible relationships between these factors. As emerging adult college students experience new autonomy and no longer have the supervision of parents to monitor their behavior, they may not conduct themselves in a manner consistent with their parents’ attitudes and values. A fuller understanding of the sources that influence sexual attitudes may aid in the resolution of major social issues, such as increasing rates of HIV/AIDS in certain populations and alarming rates of STI’s within the college population.

Risk Behavior

Zuckerman (1979) defined the concept of sensation seeking as a person’s willingness to take physical and social risks to satisfy a need for new, diverse, and intense sensations and
experiences. Reckless behavior is defined as behaviors that incorporate strong associations of serious negative consequences, including personal injury or death, or other events that may have long term negative impact (Gullone et al., 2000). People in their late teens and early twenties are engaged in reckless behavior more often than those in any other age group (Arnett, 1996; Gullone et al., 2000). Sensation seeking behaviors are linked to a variety of sexual behaviors (Arnett, 1996; Zuckerman et al., 1976). Arnett (1996) found that the frequency of reckless behaviors, such as sex without contraception and sex with someone known only casually, were higher in college students than in the high school students in their sample. Analysis of data from 14,000 college student from 119 4-year colleges in 40 states, Hollander (2003) found that those who engaged in early binge drinking (another high risk behavior) also reported higher incidences of unplanned and unprotected intercourse.

Although the concept of reckless behavior has not been linked to self-esteem, Rolison and Scherman (2002) found that sensation seeking behavior was not linked to locus of control. They also found that the more risky a person perceives a situation, the less likely she will become involved in it. However, Kershaw et al. (2003) reported that many female emerging adults underestimate their sexual risk taking behaviors in an attempt to protect their self-esteem and reduce the anxiety associated with engaging in high-risk behaviors. This implies a potential disconnect if one considers the disparity in having knowledge of the consequences involved in high-risk sexual behaviors and having the perception that the behavior is personally risky. Reckless behavior has not been linked to sexual attitudes in college females.

**Gender**

The sexual “double standard” has long been considered the norm when looking at the sexual behavior rates of males and females. The double standard has evolved from prohibiting non-marital sexual intercourse for females while allowing it for males, to permitting females to engage in sexual behaviors within committed love relationships, whereas males are more free to have unlimited sexual partners without stipulation (Milhausen & Herold, 1999). Emerging adult females are more frequently exposed to messages pertaining to the need to delay sex and the necessity of love as a prerequisite to sexual activity (Darling & Hicks, 1983). Milhausen and Herold (1999) found that college females overwhelmingly perceived a societal double standard regarding female sexual behavior being judged more severely than that of males. College females reported that they did not support the double standard personally, yet believed that other females, not males, were the more critical judges of female sexual behavior. In a study examining women’s perceived power in sexual relationships, both Caucasian and African American females were found to hold traditional male initiated patterns of sexual activity (Soet, Dudley, & Dilorio, 1999). The sexual double standard also was seen as a customary way of operating in the African American community (Fullilove, Fullilove, Haynes, & Gross, 1990). Parents, peers, and the media tend to be the major sources of sexual role modeling for children, adolescents, and emerging adults. Often these modeling sources present conflicting ideals as to appropriate sexual behavior. Children are more likely to identify and be reinforced same-sex imitation and behaviors. Therefore, they begin to develop cognitive associations of sexual behaviors based on the same-gendered models. Because parents are a central agent of sexual socialization, most adolescents identify their parents as having a significant influence on their sexuality through role modeling, communication, and on-going involvement in sexuality education (Werner-Wilson & Fitzharris, 2001). Although most research indicates that mothers tend to discuss sex with their children, especially daughters, more than fathers, there is an inconsistency in the literature as to if these discussions have any bearing on sexual activity (O’Sullivan, Meyer-Bahlburg, & Watkins, 2001). Many college students, most notably females,
report that their parents communicated mostly negative or punitive attitudes towards sexuality (Darling & Hicks, 1983; Daugherty & Burger, 1984; Jensen, de Gaston, & Weed, 1994). Oliver and Hyde (1993) discussed sexuality by highlighting the effects of environmental changes on sex role development. They suggested that females historically had more chaste sexual role models, (i.e., Doris Day). However, since that study, females are bombarded with the sexually explicit images of media personalities like Brittany Spears and Sierra.

Males frequently report higher rates of sexual activity beginning at earlier ages than their female counterparts. In a meta-analysis of 177 articles on gender differences in sexual attitudes and behaviors, Oliver and Hyde (1993) denoted that males reported more permissive sexual attitudes and a higher frequency of sexual behaviors. Males also reported a greater acceptance of casual premarital intercourse than did females. However, in recent decades some research has indicated males and females recounting comparable percentages of sexual experiences (Bustamante, 1992; Dinger & Parsons, 1999; Lewis et al., 1997; Wilson & Medora, 1990). The Center for Disease Control (1997) denoted that females reported sexual experiences (87.8%) more often than did males (84.0%). Although females report being more selective in choosing a sexual partner as a function of safer sex practices (Hawkins, Gray, & Hawkins, 1995), studies show that females often underestimate the risk of their sexual behavior (Kershaw et al., 2003).

Many emerging adult college students do not act in accordance with the knowledge that they have regarding high-risk sexual behaviors. Engaging in sexual intercourse places one at risk for contracting an STI or HIV/AIDS (CDC, 1997) and having multiple sexual partners increases the likelihood exponentially. Busamante (1992) indicated that more than 80% of the students in his sample reported having had two or more sexual partners since entering college (40.2% of his sample were college freshmen). Feigenbaum, et al., (1995) revealed almost 20% of the females in their study had six or more sexual partners. The CDC (1997) estimated that 79.5% of college students age 18-24 have been sexually active in their lifetime, with 34.5% reporting having six or more lifetime partners. In a study by The Kaiser Family Foundation (2003) 27% (n = 829) of the people age 15-24 reported having sex with six or more people. Forty two percent (n = 758) indicated they had not used protection or birth control at some point with 7% (n = 53) reporting never using protection. This points toward a trend in which emerging adults are having an increasing number of sexual partners, some without protection, thus heightening their risk of contracting STIs and HIV/AIDS.

Although college students of both genders are having more sexual experiences with more partners, they engage in this activity for different reasons. Females reported having intercourse with males who were viewed as prospective fathers for her subsequent offspring; females weighed this potential prior to engaging in sexual activity (Knox, Sturdivant, & Zusman, 2001). Females were also more likely to consider the person with whom they were considering having sex, the type of feelings they shared for each other, and the nature of the relationship prior to participating in sexual activities (Knox, Cooper, & Zusman, 2001). Males reported a greater willingness to have sexual experiences without the possibility of a relationship (Knox, Sturdivant, & Zusman, 2001) or with casual acquaintances (Wilson, & Medora, 1990) than women.

Condom use is vital as a protectant against STIs and HIV/AIDS. The Center for Disease Control (1997) denoted that more college students report using a condom during last intercourse (29.6%) than indicate using most of the time (27.9%). Dinger and Parsons (1999) discovered that about half of their sample (n = 801) reported not using a condom during their last sexual intercourse, and when asked how often they or their partner used condoms, the most frequent response was never. This is consistent with other research conducted by Hawkins et al. (1995) where nearly half of the 315 sexually active college students they surveyed stated that they rarely or never used condoms or dental dams. These results did not differed by gender. However, Prince and Bernard (1998) reported significant differences in the rates of condom use
among males and females, with more males reporting condom use 100% of the time, and fewer
males reporting that they never used condoms as compared to females. This is consistent with
the Center for Disease Control (1997) reporting that when asked if they used a condom most of
the time or always, 32.4 % of males answered yes as compared to only 25.1% of females. In
addition to low condom usage, 47% of the respondents in the Hawkins et al. (1995) study stated
that they rarely or never discussed their partner’s sexual health prior to engaging in sexual
activities. Werner-Wilson and Vosberg (1998) indicated that the strongest statistical predictor of
safer sexual practice for females was the number of lifetime partners; females who reported more
partners also indicated that they are more likely to practice safer sex. Males were more prone to
practice safer sex when in a relationship.

Males who had more knowledge about HIV/AIDS reported engaging in less frequent
intercourse, more condom use, and changing behaviors in response to a perceived personal
suggested that even when students reported a strong knowledge of HIV/AIDS, it did not appear
to influence condom use. Females were more likely to practice HIV/AIDS communication
strategies with their partner than were males; however, this did not correlate with increased
condom use. Carroll (1991) found that knowledge among emerging adult college females was
unrelated to condom use, frequency of sexual occurrences, and number of lifetime sexual
partners.

Emerging adult college students are increasingly at risk for STI's and consequently are an
important group to study. Traditionally, females had fewer sexual partners than did males; this
appears to no longer be true, as females report comparable numbers of sexual partners as males
report (Hawkins et. al., 1995). However, females may respond differently than males to current
interventions designed to promote protective behaviors (Campbell, Peplau, & DeBro, 1992).
Werner-Wilson and Vosburg (1998) called for more research on relationship factors and other
variables that may affect female sexual behavior, as they discovered males and females were
influenced differently by various contextual factors (e.g., parental influence on frequency of
sexual encounters). Based on the current research on gender effects on sexuality, it is essential
that both sexes, but particularly females, develop skills to make positive sexual decisions.
Examination of the unique individual and family factors that influence female sexuality can
enhance our understanding of sexual decision making in emerging adult females.

Race

The majority of studies focusing on college-aged students and their sexual behavior have
had predominantly White samples (Benda & Corwyn, 1998a). In fact, few studies include
information on race of college students. However, there appear to be additional data on race
when assessing older adolescents within the traditional college age range of 18-21 years old.
When examining data on frequency of sexual intercourse among impoverished rural adolescents,
Benda and Corwyn (1998a) found that males and females of color (96% Black; n = 245) engaged
in intercourse more frequently than did White adolescents. Lynn (2000) found similar results
when examining data from the National Opinion Research Center survey of approximately 1,500
adults over 18 years of age. These findings are congruent with most research that shows Black
males and females engaged in sexual intercourse more frequently and at an earlier age than their
White counterparts (Benda & Corwyn, 1998a; CDC, 1997; O’Sullivan et al., 2001; Samuels,
1997). Black females also had higher pregnancy rates than White adolescents (Benda &
Corwyn, 1998a; CDC, 1997; O’Sullivan et al., 2001). However, according to Benda and Corwyn
(1998a), the rate of intercourse among young White females has risen as the age of their first
intercourse has declined to levels nearly comparable with those of Black females.
Further, Benda and Corwyn (1998a) suggest that when examining the importance of family support, experimental sexual behavior was more accepted in the Black culture. Black mothers living in an impoverished urban community were more likely to communicate to their daughters that sexual participation and pregnancy were associated with the loss of essential assets, such as money, time, educational opportunities, and the potential for future long term relationships (O’Sullivan et al., 2001). Black and Latina mothers were found to use scare tactics in communicating with their daughters about sexual involvement, including exaggerating the physical and mental distress associated with virginity loss and childbirth in order to deter sexual activity (O’Sullivan et al., 2001). According to O’Sullivan et al. (2001), this practice continued even though parents and adolescents both reported it as an ineffective and faulty means of communication.

Both Black and White emerging adult women engage in behaviors that place them at risk for contracting HIV/AIDS (i.e., engaging in unprotected sex and having multiple sexual partners) (Soet et al., 1999). Black women are currently the fastest growing recipients of the AIDS virus; they are diagnosed at a rate 25 times higher than White females (CDC, 2003; Soet et al., 1999). These statistics indicate the importance of Black emerging adult females protecting themselves against disease. However, when condom use among Blacks is examined, Black women report holding more negative attitudes toward condom use as compared to White women (Valdiserri et al., 1989). Further, Black college students with multiple sex partners considered condoms more uncomfortable and inconvenient to use than those students reporting only one sexual partner (Johnson et al., 1992). Fullilove et al. (1990) indicated that Black men and women were not open and forthright when negotiating condom use in private. This is in contrast to Soet et al. (1999) who reported that Black women used condoms more often and had more positive outcome expectancies for condom use than did White women.

There is a need to determine if race is a factor in the sexual behavior among emerging adult women and to understand potential cultural influences (individual, family, and contextual) that may affect the behavior. Although the importance of parental roles has been studied in Black and White adolescent females (Wu & Thompson, 2001), it is not known if the sexual attitudes obtained while living with parents is incorporated into the independent living situation of emerging adulthood. More consideration should be given to normative developmental issues among Black females rather than focusing on high-risk individuals (Murry, 1994).

Age

Most research supports the notion that sexual experiences increase with age in White, Black, and Hispanic populations (Huerta-Franco, & Malacara, 1999). As adolescents grow older and strive for independence, gradually becoming less dependent of the family, parental influence may decrease, and several studies support less conformity to parental advice and more conformity to peer advice (Dittus et al., 1999). No studies differentiate findings by age of college students; all college students are grouped together (Civic, 2000; Dilorio et al., 2000; Dinger & Parsons, 1999; Knox, 2001). As the population on campuses across the nation becomes more diverse, both racially and by age, there is an increased need to include race and age factors in the study of sexual knowledge and behavior.

Summary

Emerging adult college students continue to place themselves at risk for pregnancy, STIs, and other destructive and psychological outcomes by engaging in high-risk sexual behaviors. This appears to be true despite having knowledge of the risks involved in risky sexual behavior and knowing how to protect oneself from disease and pregnancy. The relationships between
sexual behaviors and sexual knowledge, self-esteem, and sexual attitudes in emerging adults have not been clearly established. There are discrepancies concerning whether high levels of self-esteem is associated with making safe sexual choices or whether engaging in high-risk behaviors actually boosts the self-esteem of college students. As emerging adults experience new found autonomy, it is unknown if their perceptions of the values and attitudes stressed by their parents affect current sexual decision making. Although the propensity to engage in reckless behaviors has included high-risk sexual behaviors, there has been no link to reckless behaviors and self-esteem or sexual attitudes. Further, the majority of sexuality research conducted with college aged populations has drawn upon White samples and all students have been massed together. Thus, there is little known of potential racial and age differences in emerging adult female college samples. Black women are currently the fastest growing recipients of the AIDS virus with the leading cause of infection from heterosexual contact (CDC, 2003). There is a need to control for race and age when examining the sexual behavior of emerging adult women and to understand any age differences or cultural influences (individual, family, and contextual) that may affect their behavior. The relationships between sexual behaviors and sexual knowledge, self-esteem, and sexual attitudes in emerging adults need to be better understood to promote healthy and safe behaviors and to provide effective resources, services, and programs for emerging adult females.
CHAPTER 3

METHODOLOGY

The purpose of this study was to investigate relationships between (1) sexual behavior and sexual knowledge, (2) sexual behavior and self-esteem, (3) sexual behavior and sexual attitudes, (4) sexual behavior and the perceived parental sexual attitudes among college aged women, and (5) sexual behavior and risk behavior as a function of self-esteem and sexual attitudes. This study controlled for the possible influence of race and age.

The questionnaire used in the study was pilot tested on a group of 27 female undergraduate students to ensure comprehension of instructions, questions, and to determine an approximate length of time to complete the questionnaire packet. This chapter describes the procedures, sample, measures used, and their psychometric properties.

Procedure

The succeeding steps were taken to collect and record data for subsequent analyses: (a) The researcher contacted individual instructors of introductory courses in family relationships at Florida State University to provide a description of the study, obtain permission to recruit participants, and collect data during one class meeting. (b) Prior to data collection, each participant was informed of the voluntary nature of participation, the protection of participant confidentiality, and the intended use of the information. (c) Those individuals willing to participate read and signed an informed consent (see Appendix A). (d) Once the consent was given, each participant received the packet in a blank envelope and heard verbal instructions regarding the completion of data collection (e) Consistent with the Human Subjects Committee recommendations regarding privacy, each student was informed that he/she may sit no closer than one empty seat apart from other students while completing the instruments, if needed. (f) Following the completion of the instrument, questionnaires and answer sheets were returned to the envelope to ensure confidentiality. (g) Scoring of each instrument was completed according to the guidelines set forth by the authors. (h) Data from each packet were entered and statistical analyses conducted using the Statistical Package for the Social Sciences (SPSS) version 11. A copy of the Human Subjects application and committee approval appear in Appendix B. Copies of individual instruments used in this study are included in Appendix C.

Definition of Population

The sample consisted of currently enrolled undergraduate college aged women at Florida State University (FSU), a public university in northern Florida. Florida State University had an enrollment, in 2005, of approximately 37,328 students of which 56.3% (21,024) are female. The average age of students at the university is 21.2 years. The student population is currently composed of 71.3% White, 11.5% Black, 8.9% Hispanic, and 3% Asian. Florida State University’s undergraduates make up 78.4% (29,297) of the total student population.

Description of the Sample

Three hundred seventy nine female undergraduate students (N = 379) completed questionnaires. In an attempt to obtain a diverse sample of college students in terms of race and age, students enrolled and attending a core level undergraduate course in family relationships were targeted, as many students, regardless of major, complete this course. This nonprobability sampling method relied on obtaining data from the available subjects in these courses on any
given day. Courses were targeted at various times throughout a 5-day period to minimize bias in
the sample to include students taking courses at a variety of times.

The mean age of the sample (n = 364) was 19.8 years old (SD = 1.74); the range was 18-
34 years with 96.4 % of the sample under age 23. The racial make-up closely reflected that of
the total student population with 68.1% White, 14.2% Black; 10.3% Hispanic; 1.6% Asian; 0.3%
Native Hawaiian/Pacific Islander; and 1.8% other. Fourteen (3.7%) of the respondents did not
indicate race. The majority of the respondents were freshmen (36.2%) and sophomores
(32.5%). Juniors made up 22.2% of the sample, whereas seniors (7.7%) were the least
represented. Fourteen (3.7%) of the respondents did not respond. The overwhelming majority
of the sample was single (90.7%), although almost half (48.5%) of the single students reported
being in a dating relationship. The dating students who reported their length of relationship (n =
132; 52 missing) indicated a broad range of relationships duration - from 1-month to >7-years (M
= 20, SD = 17.55). See Table 1 summarizing demographic information.

The majority (63.8%) reported that their annual family income was $55,000 or over. Almost 12%
reported family income in the $45,000-$54,999 range; $35,000-$44,999 (5.1%);
$25,000-$34,999 (4.8%); $16,000-$24,999 (9.4%); and $0-$15,999 (5.1%). Twentyeight
people did not respond to this item. The two parent, continuously married family was reported
most often (67.8%) as the type of family in which they were raised (n = 257), with mother-
headed single-parent home reported by 13.5% (n = 51); stepfamily with a biological mother
(8.7%, n = 33); stepfamily with the biological father (2.1%, n = 8); father-headed single-parent
(1.6%, n = 6); and 2.6% (n = 10) reporting other. Fourteen people (3.7%) did not respond to
this item. Most of the sample was from metropolitan (> 100,000 pop.) and suburban (25,000-
49,000 pop.) areas (31.4 % and 27.7%, respectively; See Table 1).

Table 1
Demographic Characteristics for the Sample (N = 379)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Frequency</th>
<th>Percent</th>
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<tr>
<td><strong>Age</strong></td>
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<tr>
<td>18-19</td>
<td>194</td>
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<tr>
<td>20-21</td>
<td>74</td>
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<tr>
<td>24 &amp; over</td>
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<tr>
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<tr>
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<tr>
<td>Native Hawaiian/Pacific Islander</td>
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<tr>
<td>Other</td>
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<td>1.8</td>
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<tr>
<td>Variables</td>
<td>Frequency</td>
<td>Percent</td>
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<tr>
<td><strong>Class Standing</strong></td>
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<tr>
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<tr>
<td><strong>Relationship Status</strong></td>
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<tr>
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<tr>
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<td>0.3</td>
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<td>Single – dating</td>
<td>184</td>
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<tr>
<td><strong>Family Income</strong></td>
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<td>Single Parent-father headed</td>
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</tr>
<tr>
<td>Stepfamily (w/biological mother)</td>
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</tr>
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<td>Stepfamily (w/biological father)</td>
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<td>2.1</td>
</tr>
<tr>
<td>Other</td>
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<td>2.6</td>
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<tr>
<td>Missing</td>
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Table 1 Continued

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<th>Frequency</th>
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<td>Suburban</td>
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<td>Small Town</td>
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<tr>
<td>Rural/Farm</td>
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<td>2.1</td>
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<tr>
<td>Missing</td>
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<td>4.0</td>
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<tr>
<td>n = 364</td>
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</tbody>
</table>

**Instrumentation**

Six instruments were used: (a) a modified version of Brady and Levitt’s (1965b) Sexual Experience Inventory (SEI), (b) the Miller-Fisk Sexual Knowledge Questionnaire (SKQ; Gough, 1974), (c) the Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965), (d) the Hendrick Sexual Attitude Scale (HSAS; Hendrick & Hendrick, 1987), (e) a revised version of the Hendrick Sexual Attitude Scale, and (f) a 14-item questionnaire designed to measure reckless behavior (Arnett, 1994, 1996). See Appendix 3. Instrument selection and development involved a review of the literature which identified instruments that signified the main concepts in the study. Psychometric properties, availability, and efficiency of administration were considered. The scoring and psychometric properties of each scale are discussed.

**Sexual Experience Inventory**

Sexual behavior was assessed using a modified version of the Sexual Experience Inventory (SEI; Brady & Levitt, 1965a, 1965b). The original Guttman-type questionnaire contained 16 items including both heterosexual and homosexual behaviors (kissing, breast and genital touching, oral-genital contact, and coitus). Respondents answered by checking whether they have experienced the activities in life, during the last 5 years, or never. There were no published reliability and validity data of the SEI. However, the Coefficient of Reproducibility reported by the authors (Brady & Levitt, 1965a) was .97.

The measure had been used historically on males (Brady & Levitt, 1965a , 1965b; Samuels, 1996). However, revised versions were used with mixed populations (i.e., both males and females) (Istvan, 1983) and women-only samples (Giles, 1997). To obtain a more comprehensive depiction of female sexual behavior, questions on the SEI were expanded to include same-sex and opposite-sex activities for females only; exclusively male activities were deleted from the scale. The scaling was modified to a 5-item frequency scale (never, rarely, sometimes, often, very often) so as to create a more specific range of behavior choices. Higher scores indicated more frequent sexual behavior. To test internal consistency and stability of the changed items, the inventory was given to 27 female undergraduate students in an upper level course in the Department of Family and Child Sciences. Internal consistency was determined for the modified scale (α = .84). The heterosexual subscale (items 1-11) showed greater internal consistency (α = .88) than the entire scale, suggesting homogeneity of the measure. The revised SEI included 21 items. Higher scores indicated a high frequency of sexual behaviors.
Miller-Fisk Sexual Knowledge Questionnaire

The 24-Item Version of the Miller-Fisk Sexual Knowledge Questionnaire (SKQ; Gough, 1974) was designed for use in studies of sexual behavior. It measures knowledge related to reproductive physiology, contraceptive approaches, and issues related to fertility and infertility. Respondents choose among four-option multiple-choice selections or true/false items. A total score encompasses the number of correct responses. A higher number of correct responses suggest more sexual knowledge.

Miller and Fisk (Gough, 1974) developed the original 49-item test of sexual knowledge at the Stanford University School of Medicine in 1969. Twenty-five items were subsequently dropped by the authors as psychometric analysis suggested they either insignificantly or negatively correlated with the total score. Gough administered the shortened questionnaire to male and female college students (N=355). For each of the 24 items, point-biserial correlations were computed between correct answer to the item and total score. All of the point-biserial correlations were significant beyond the .01 level of probability, suggesting an acceptable degree of internal consistency (Gough). The corrected split half reliability coefficient for total score was .67, N = 355. Mean scores for females were significantly higher (p < .01) than males (females, 16.55, SD = 3.69; males, 15.51, SD = 3.77). The Kuder-Richardson formula 20 (K-R 20) reliability coefficient for this current sample was .4612.

Rosenberg Self-Esteem Scale

Self esteem was measured using the Rosenberg Self-Esteem Scale (RSE; Corcoran & Fischer, 2000; Rosenberg, 1965). This scale has been used extensively in studies of sexual attitudes (Miller, Christensen, & Olson, 1987), relationship with parents (Lau & Leung, 1992), perceived sexual risk (Kershaw et al., 2003; McNair et al., 1998), risky sexual practices (Langer et al., 2001), sexual knowledge and sexual practice (Hollar & Snizek, 1996), among others. The scale is a 10-item Guttman scale with one dimension that has been used with a wide range of groups, including high school students, adults, and college students. Respondents were asked to denote the degree to which they agree or disagree with each statement (strongly agree; agree; disagree; strongly disagree). The scale was scored by totaling the individual 4-point items after reverse scoring the negatively worded items (items 2, 5, 6, 8, 9). Lower scores indicated higher levels of self-esteem. Reported coefficient of reproducibility of .92 indicates excellent internal consistency and test-retest reliability of .85 and .88 indicates excellent stability (Corcoran & Fischer, 2000). There is demonstrated concurrent, predictive, and construct validity (Corcoran & Fischer).

Hendrick Sexual Attitude Scale

Sexual attitudes of college women were assessed using the Hendrick Sexual Attitude Scale (HSAS; Hendrick & Hendrick, 1987). This 43-item instrument measures four attitudes of sexuality: permissiveness, sexual practices, communion in the relationship, and instrumentality. It is a 5-point, Likert-style scale. Respondents are asked to indicate the degree to which they agreed or disagreed with each statement. After reverse scoring items 19, 20, and 21, subscale scores were calculated by dividing the number of items in each subscale by the sum of the subscale items. Lower scores on this scale indicated more permissive sexual attitudes (1 = strongly agree, 2 = moderately agree, 3 = neutral, 4 = moderately disagree, and 5 = strongly disagree). The Permissiveness subscale is made up of items 1-21. Typical items on this subscale are “Casual sex is permissible,” “I would like to have sex with many partners,” and “Sex without love is meaningless.” The Sexual Practices subscale includes items 22-28, such as
Birth control is part of responsible sex,” “Masturbation is alright,” and “Sex education is important for young people.” The Communion in the Relationship subscale include items 29-37. Sample items include “At its best, sex seems to be the merging of two souls,” and Sex is the closest form of communication between two people.” The Instrumentality subscale includes items 38-43. Typical items on this subscale are “The main purpose of sex is to enjoy oneself,” and “Sex is primarily physical.”

Good to excellent internal consistency for each subscale (.94, .71, .80, and .80) and test-re-test (.88, .80, .67, and .66) reliability have been reported by Corcoran and Fischer (2000) for all four dimensions. Scores on each subscale correlate with other measures of sex, love, and sensation seeking implying good concurrent validity (Corcoran & Fischer). Gender and ethnic specific norms are reported. Criterion validity has been considered through examination of relationships with the Sexual Attitudes Scale, the Sexual Opinion Survey, the Reiss Male and Female Premarital Sexual Permissiveness Scales, and the Revised Mosher Guilt Inventory (Touliatus, Perlmutter, Strauss, & Holden, 2000)

To obtain the students’ perceptions of their parents’ sexual attitudes, the Hendrick Sexual Attitude Scale was revised. Although the core questions remained the same, phrases such as “My parent/guardian believes…” or “According to my parent/guardian…” were inserted in order to facilitate the student’s response from the perspective of their most influential parent. The question “The parent or guardian who influences my life most is…” was inserted prior to the parental version of the scale to determine from whose perspective the respondent was answering. To test internal consistency and stability of the changed items, the revised measure was given to 27 undergraduate females in an upper level course in the Department of Family and Child Sciences. The Cronbach’s alpha for the entire scale was .82. For each subscale, the Cronbach’s alpha was as follows: Permissiveness subscale (.81); the Sexual Practices subscale (.73); the Communion in the Relationship subscale (.82); and the Instrumentality subscale (.84). These findings are consistent with the good to excellent internal consistency reported for the original scale.

14- Item Reckless Behavior Questionnaire

Arnett (1994, 1996) developed a 14-item questionnaire to measure reckless behavior. The respondents were asked to report the number of times within the past year that they have engaged in a range of reckless activities. The majority of response options were organized into the responses of 0, once, 2-5 times, 6-10 times, and more than 10 times. For the two items addressing driving a motor vehicle over 80 miles per hour and driving a motor vehicle more than 20 miles over the speed limit, the responses were 0, 1-5 times, 6-10 times, 11-20 times, and more than 20 times. 3-month test-retest reliabilities for each scale item averaged over 0.80 (Arnett, 1996). Scores were based on categories. Scores ranged from 0 to 56 ($N = 379$, $M = 25.6; SD = 7.4$) with higher scores indicating engaging in more high risk behaviors.

Demographic Data

Demographic data were collected from all participants including age, race, class status, among others. In addition, participants were asked about family structure, family socioeconomic status, marital/relationship status, religious affiliation, and frequency of religious practice.
Analyses

Data analyses were conducted using the Statistical Package for the Social Sciences (SPSS) version 11.0. Statistical procedures used to test the research questions are presented below. Each variable in the study was examined separately using univariate analyses, i.e., frequency distributions and measures of central tendency (mean mode, median, standard deviation, and range of responses.

Relationship Between Sexual Behavior and Sexual Knowledge

A Pearson product-moment correlation was calculated to examine the relationship between frequency of sexual behavior and sexual knowledge with sexual behavior treated as the criterion variable and sexual knowledge as the predictor variable. Multiple linear regression was used to partial out the effects of race and age in the relationship.

Relationship Between Sexual Behavior and Self-Esteem

A Pearson product-moment correlation was calculated to examine relations between frequency of sexual behavior among emerging adult college women and self-esteem.

Relationship Between Sexual Behavior and Sexual Attitudes

A Pearson product-moment correlation was calculated to examine the relations between frequency of sexual behavior and sexual attitudes with sexual behavior treated as the criterion variable and each of the four attitude sub-scales (Permissiveness, Sexual Practices, Communion in the Relationship, and Instrumentality) considered as the predictor variables. Multiple linear regression was used to partial out the effects of race and age for each sub-scale.

Multiple linear regression was used to partial out the effects of self-esteem on the relationship between sexual behavior and sexual attitudes. Sexual behavior was treated as the criterion variable; the four sexual attitudes scales and self-esteem were used as predicting variables.

Relationship Between Sexual Behavior and the Perceived Sexual Attitudes of Their Parents

Pearson product-moment correlations were performed to assess relations between the college aged women’s sexual behavior and their perceived sexual attitudes of their most influential parent. These were designated by the equivalent sub-scales of the students’ sexual attitude scale.

Relationship Between Sexual Behavior and Risk Behavior

A Pearson product-moment correlation was calculated to examine the relationship between sexual behavior and risk behavior with sexual behavior treated as the criterion variable and risk behavior as the predictor variable. Multiple linear regression was used to assess if self-esteem and sexual attitude changed this relationship. Each sub-scale of the sexual attitude scale were examined individually.
CHAPTER 4

RESULTS

The purpose of this study was to investigate relationships between sexual behavior, sexual knowledge, self-esteem, sexual attitudes, and risk behavior in college women. Descriptive data will be presented followed by findings related to each of the research questions stated in Chapter 3.

Analyses of the Sample Characteristics

Sexual Behavior

Sexual behavior was assessed using a modified version of the Sexual Experience Inventory (SEI; Brady & Levitt, 1965b). To obtain a more comprehensive depiction of female sexual behavior, questions on the SEI were expanded to include same-sex and opposite-sex activities for females only; exclusively male activities were deleted from the scale. Respondents were asked to circle the rate at which they had experienced a list of sex related activities. The scaling was modified to a five item frequency scale (1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = always) so as to create a more specific range of behavior choices. The range of possible scores was 21 to 105. Higher total scores indicated more frequent sexual behavior in general (i.e., opposite sex and same sex behaviors combined). More precise information can be gleaned from examining the frequencies of each specific sexual behavior (See Table 2).

Table 2

<table>
<thead>
<tr>
<th>Sexual Behaviors</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Very Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kissing a male with tongue contact</td>
<td>12</td>
<td>13</td>
<td>68</td>
<td>111</td>
<td>175</td>
</tr>
<tr>
<td></td>
<td>3.2%</td>
<td>3.4%</td>
<td>17.9%</td>
<td>29.3%</td>
<td>46.2%</td>
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<tr>
<td>Manual manipulation of your clad breast by a male</td>
<td>34</td>
<td>62</td>
<td>132</td>
<td>88</td>
<td>63</td>
</tr>
<tr>
<td></td>
<td>9.0%</td>
<td>16.4%</td>
<td>34.8%</td>
<td>23.2%</td>
<td>16.6%</td>
</tr>
<tr>
<td>Manual manipulation of your nude breast by a male</td>
<td>41</td>
<td>47</td>
<td>124</td>
<td>99</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td>10.8%</td>
<td>12.4%</td>
<td>32.7%</td>
<td>26.1%</td>
<td>17.9%</td>
</tr>
<tr>
<td>Oral contact with your breast by a male</td>
<td>37</td>
<td>59</td>
<td>125</td>
<td>89</td>
<td>69</td>
</tr>
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<td></td>
<td>9.8%</td>
<td>15.6%</td>
<td>33.0%</td>
<td>23.5%</td>
<td>18.2%</td>
</tr>
<tr>
<td>Manual manipulation of male genitalia</td>
<td>57</td>
<td>84</td>
<td>116</td>
<td>73</td>
<td>49</td>
</tr>
<tr>
<td></td>
<td>15.0%</td>
<td>22.2%</td>
<td>30.6%</td>
<td>19.3%</td>
<td>12.9%</td>
</tr>
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<td>Manual manipulation of your genitalia by a male</td>
<td>57</td>
<td>57</td>
<td>126</td>
<td>82</td>
<td>57</td>
</tr>
<tr>
<td></td>
<td>15.0%</td>
<td>15.0%</td>
<td>33.2%</td>
<td>21.6%</td>
<td>15.0%</td>
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<table>
<thead>
<tr>
<th>Sexual Behaviors</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Very Often</th>
</tr>
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<td>Oral contact with male genitalia</td>
<td>90</td>
<td>91</td>
<td>101</td>
<td>57</td>
<td>40</td>
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<td>$M = 2.65, SD = 1.22$</td>
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<td>24.0%</td>
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<td>15.0%</td>
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<td>Heterosexual intercourse</td>
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<td>33</td>
<td>86</td>
<td>83</td>
<td>86</td>
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<td>8.7%</td>
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<td>22.7%</td>
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<td>Anal heterosexual intercourse</td>
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<td>$M = 1.20, SD = .559$</td>
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<td>3</td>
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<td>$M = 1.31, SD = .697$</td>
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<td>Manual manipulation of your clad breast by a female</td>
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<td>6</td>
<td>2</td>
<td>2</td>
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<td>$M = 1.13, SD = .490$</td>
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<td>6.1%</td>
<td>1.6%</td>
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<td>0.5%</td>
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<tr>
<td>Manual manipulation of your nude breast by a female</td>
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<td>1</td>
<td>3</td>
<td>2</td>
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<td>$M = 1.09, SD = .450$</td>
<td>93.9%</td>
<td>4.5%</td>
<td>0.3%</td>
<td>0.8%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Oral contact with your breast by a female</td>
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<td>1</td>
<td>3</td>
<td>2</td>
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<tr>
<td>$M = 1.09, SD = .448$</td>
<td>94.2%</td>
<td>4.2%</td>
<td>0.3%</td>
<td>0.8%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Manual manipulation of your genitalia by a female</td>
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<td>14</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>$M = 1.08, SD = .428$</td>
<td>94.7%</td>
<td>3.7%</td>
<td>0.5%</td>
<td>0.5%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Oral contact with your genitalia by a female</td>
<td>348</td>
<td>14</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>$M = 1.08, SD = .401$</td>
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<td>3.7%</td>
<td>0.5%</td>
<td>0.3%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Manual manipulation of another female’s clad breast</td>
<td>348</td>
<td>25</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>$M = 1.11, SD = .455$</td>
<td>91.8%</td>
<td>6.6%</td>
<td>0.5%</td>
<td>0.5%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Manual manipulation of another female’s nude breast</td>
<td>355</td>
<td>17</td>
<td>2</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>$M = 1.10, SD = .461$</td>
<td>93.7%</td>
<td>4.5%</td>
<td>0.5%</td>
<td>0.8%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Oral contact with another female’s breast</td>
<td>358</td>
<td>15</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>$M = 1.09, SD = .431$</td>
<td>94.5%</td>
<td>4.0%</td>
<td>0.5%</td>
<td>0.5%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Manual manipulation of female genitalia</td>
<td>358</td>
<td>13</td>
<td>2</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>$M = 1.10, SD = .475$</td>
<td>94.5%</td>
<td>3.4%</td>
<td>0.5%</td>
<td>1.1%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Oral contact with female genitalia</td>
<td>360</td>
<td>10</td>
<td>4</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>$M = 1.09, SD = .484$</td>
<td>95.0%</td>
<td>2.6%</td>
<td>1.1%</td>
<td>0.5%</td>
<td>0.8%</td>
</tr>
</tbody>
</table>
The majority of the sample reported not engaging in any type of same sex behaviors; ranging from 78.1% reporting never to “kissing a female with tongue contact” to 95.0% reporting never to “oral contact with your genitalia by a female” and “oral contact with female genitalia” (N = 379). This is consistent with 96% (n = 364) of the sample indicating their sexual orientation as heterosexual (M = 1.07, SD = .372). Twenty four percent (n = 91) reported never having heterosexual intercourse; 288 (76.0%) indicated having had heterosexual intercourse rarely 33 (8.7%), sometimes 86 (22.7%), often 83 (21.9%) to 86 (22.7%) reporting having heterosexual intercourse often (M = 3.11, SD = 1.47). Most emerging adult college females (85.2%) indicated they had never engaged in heterosexual anal intercourse (n = 323, M = 1.20, SD = .559).

To explain the patterns of correlations within this set of data, an exploratory factor analysis was performed. To maximize variances of the factors, Varimax rotation was employed (Pedhazur & Schmelkin, 1991). As Tables 3 and 4 indicate, the items in this measure grouped together in three distinctive dimensions, suggesting that the instrument measures three distinct concepts: same sex behaviors, opposite sex behaviors, and anal sexual behavior.

Table 3

<table>
<thead>
<tr>
<th>Factor</th>
<th>Label</th>
<th>Total</th>
<th>Initial Eigenvalues</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Same Sex Behavior (items 11-21)</td>
<td>9.20</td>
<td>43.83</td>
<td>43.83</td>
</tr>
<tr>
<td>2</td>
<td>Opposite Sex Behavior (item 1-9)</td>
<td>6.56</td>
<td>31.23</td>
<td>75.06</td>
</tr>
<tr>
<td>3</td>
<td>Anal Sex Behavior (item 10)</td>
<td>1.02</td>
<td>4.83</td>
<td>79.89</td>
</tr>
</tbody>
</table>

The three components (same sex behavior, opposite sex behavior, and anal sex behavior) explained 79.89% of the total variance in the model. Although the factor analysis suggested that the instrument measured three distinct factors, the majority of responses were within the opposite sex behavior category, data analyses for this study will include the total score on the sexual behavior measure (all sexual behaviors) in addition to separating the behavior analyses into same and opposite sex behaviors. Because anal sex appears to be uncorrelated to sexual orientation and in it’s own category, with 14.8% of the sample reporting having engaged in this activity, it will be not be considered in the sexual behavior category except as it relates to total sexual behavior.
Table 4

*Factor Analysis of Sexual Behavior Questionnaire*

<table>
<thead>
<tr>
<th>Sexual Behaviors</th>
<th>Component</th>
<th>Same Sex Behavior</th>
<th>Opposite Sex Behavior</th>
<th>Anal Sex</th>
<th>Communalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kissing a male with tongue contact</td>
<td></td>
<td>.005</td>
<td>.716</td>
<td>.140-</td>
<td>.534</td>
</tr>
<tr>
<td>Manual manipulation of your clad breast by a male</td>
<td></td>
<td>.000</td>
<td>.872</td>
<td>.004</td>
<td>.762</td>
</tr>
<tr>
<td>Manual manipulation of your nude breast by a male</td>
<td></td>
<td>.000</td>
<td>.921</td>
<td>.004</td>
<td>.851</td>
</tr>
<tr>
<td>Oral contact with your breast by a male</td>
<td></td>
<td>.001</td>
<td>.914</td>
<td>.005</td>
<td>.839</td>
</tr>
<tr>
<td>Manual manipulation of male genitalia</td>
<td></td>
<td>.004</td>
<td>.900</td>
<td>.009</td>
<td>.819</td>
</tr>
<tr>
<td>Manual manipulation of your genitalia by a male</td>
<td></td>
<td>.002</td>
<td>.913</td>
<td>.004</td>
<td>.835</td>
</tr>
<tr>
<td>Oral contact with your genitalia by a male</td>
<td></td>
<td>.002</td>
<td>.786</td>
<td>.235</td>
<td>.674</td>
</tr>
<tr>
<td>Oral contact with male genitalia</td>
<td></td>
<td>.005</td>
<td>.795</td>
<td>.259</td>
<td>.702</td>
</tr>
<tr>
<td>Heterosexual intercourse</td>
<td></td>
<td>.005</td>
<td>.782</td>
<td>.009</td>
<td>.621</td>
</tr>
<tr>
<td>Anal heterosexual intercourse</td>
<td></td>
<td>.106</td>
<td>.202</td>
<td>.913</td>
<td>.885</td>
</tr>
<tr>
<td>Kissing a female with tongue contact</td>
<td></td>
<td>.652</td>
<td>.009</td>
<td>.315</td>
<td>.532</td>
</tr>
<tr>
<td>Manual manipulation of your clad breast by a female</td>
<td></td>
<td>.874</td>
<td>.005</td>
<td>.128</td>
<td>.783</td>
</tr>
<tr>
<td>Manual manipulation of your nude breast by a female</td>
<td></td>
<td>.964</td>
<td>.001</td>
<td>.002</td>
<td>.930</td>
</tr>
<tr>
<td>Oral contact with your breast by a female</td>
<td></td>
<td>.972</td>
<td>.000</td>
<td>.002</td>
<td>.945</td>
</tr>
<tr>
<td>Manual manipulation of your genitalia by a female</td>
<td></td>
<td>.973</td>
<td>.000</td>
<td>.001</td>
<td>.947</td>
</tr>
<tr>
<td>Oral contact with your genitalia by a female</td>
<td></td>
<td>.914</td>
<td>.002</td>
<td>.002</td>
<td>.837</td>
</tr>
</tbody>
</table>
### Table 4 Continued

<table>
<thead>
<tr>
<th>Sexual Behaviors</th>
<th>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Same Sex Behavior</td>
</tr>
<tr>
<td>Manual manipulation of another female’s clad breast</td>
<td>.927</td>
</tr>
<tr>
<td>Manual manipulation of another female’s nude breast</td>
<td>.959</td>
</tr>
<tr>
<td>Oral contact with another female’s breast</td>
<td>.979</td>
</tr>
<tr>
<td>Manual manipulation of female genitalia</td>
<td>.890</td>
</tr>
<tr>
<td>Oral contact with female genitalia</td>
<td>.861</td>
</tr>
</tbody>
</table>

### Sexual Knowledge

The 24-Item Version of the Miller-Fisk Sexual Knowledge Questionnaire (SKQ) (Gough, 1974) was designed to be used in studies of sexual behavior. It measures knowledge related to reproductive physiology, contraceptive approaches, and issues related to fertility and infertility. Respondents choose among four-option multiple choice selections or true/false items. A total score encompasses the number of correct responses. A higher number of correct responses suggest more sexual knowledge. The range of the numbers of items correctly answered on this 24-item scale was a high of 23 items answered correctly and a low of 8 items correctly answered ($M = 14.66$, $SD = 2.73$). The median number of items correctly answered was 15 (62.5%); the middle 50 percentile of the scores fell between 13 and 16 correct answers (See Table 5).

### Table 5

**Summary of Correct Scores for the Miller-Fisk Sexual Knowledge Questionnaire (N = 379)**

<table>
<thead>
<tr>
<th>Number of items answered correctly</th>
<th>Percentage of correct items</th>
<th>Number of Students receiving this score</th>
<th>Percentage of students receiving this score</th>
</tr>
</thead>
<tbody>
<tr>
<td>23</td>
<td>96%</td>
<td>2</td>
<td>0.53%</td>
</tr>
<tr>
<td>22</td>
<td>92%</td>
<td>1</td>
<td>0.26%</td>
</tr>
<tr>
<td>21</td>
<td>88%</td>
<td>3</td>
<td>0.79%</td>
</tr>
<tr>
<td>20</td>
<td>83%</td>
<td>10</td>
<td>2.64%</td>
</tr>
</tbody>
</table>
Table 5 Continued

<table>
<thead>
<tr>
<th>Number of items answered correctly</th>
<th>Percentage of correct items</th>
<th>Number of Students receiving this score</th>
<th>Percentage of students receiving this score</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>79%</td>
<td>20</td>
<td>5.28%</td>
</tr>
<tr>
<td>18</td>
<td>75%</td>
<td>20</td>
<td>5.28%</td>
</tr>
<tr>
<td>17</td>
<td>71%</td>
<td>36</td>
<td>9.50%</td>
</tr>
<tr>
<td>16</td>
<td>67%</td>
<td>43</td>
<td>11.35%</td>
</tr>
<tr>
<td>15</td>
<td>63%</td>
<td>61</td>
<td>16.09%</td>
</tr>
<tr>
<td>14</td>
<td>58%</td>
<td>55</td>
<td>14.51%</td>
</tr>
<tr>
<td>13</td>
<td>54%</td>
<td>41</td>
<td>10.82%</td>
</tr>
<tr>
<td>12</td>
<td>50%</td>
<td>40</td>
<td>10.55%</td>
</tr>
<tr>
<td>11</td>
<td>46%</td>
<td>24</td>
<td>6.33%</td>
</tr>
<tr>
<td>10</td>
<td>42%</td>
<td>17</td>
<td>4.48%</td>
</tr>
<tr>
<td>9</td>
<td>38%</td>
<td>4</td>
<td>1.06%</td>
</tr>
<tr>
<td>8</td>
<td>33%</td>
<td>2</td>
<td>0.53%</td>
</tr>
</tbody>
</table>

*Md* = 14, Range (8-23) 50% range = 67-54%  
N=379 100%

The distribution of correct responses among the 379 students completing the sexual knowledge questionnaire appears to be relatively normally distributed (See Figure 1).
Findings Related to Research Questions

Relationship Between Sexual Behavior and Sexual Knowledge

A Pearson product-moment correlation was calculated to examine the relationship between sexual behavior and sexual knowledge with sexual behavior treated as the criterion variable and sexual knowledge as the predictor variable. There was no significant relationship between these two variables ($r = .056$).

Multiple linear regression was used to assess the relationship between sexual behavior and sexual knowledge with age and race partialed out. Age and race were treated separately as predictor variables along with sexual knowledge; sexual behavior continued to be the criterion variable in each case. Although age was significantly related to total sexual behavior ($r = .106$, $p < .05$), it was not related to sexual knowledge ($r = .063$). The same held true for the relationship between age and opposite sex behaviors ($r = .122$, $p < .05$), yet no relationship was found when sexual knowledge was a factor. See Table 6.

Figure 1: Sexual Knowledge Questionnaire
Table 6

Relationhip Between Sexual Knowledge and a) Total Sex Behavior  b) Opposite Sex Behavior and c) Same Sexual Behavior Frequency Controlling for Age

<table>
<thead>
<tr>
<th>Predictor Variable</th>
<th>r</th>
<th>β</th>
<th>R</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Total Sex Behavior</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.106*</td>
<td>.106*</td>
<td>.122</td>
<td>.015</td>
</tr>
<tr>
<td>Sexual Knowledge</td>
<td>.063</td>
<td>.059</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Opposite Sex Behavior</td>
<td>.122*</td>
<td>.119*</td>
<td>.138</td>
<td>.019</td>
</tr>
<tr>
<td>Age</td>
<td>.068</td>
<td>.064</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexual Knowledge</td>
<td>.010</td>
<td>.010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Same Sexual Behavior</td>
<td>.000</td>
<td>.000</td>
<td>.010</td>
<td>.000</td>
</tr>
<tr>
<td>Age</td>
<td>.000</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexual Knowledge</td>
<td>.010</td>
<td>.019</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05

The relationship between sexual behavior and sexual knowledge was not influenced by race (See Table 7). Neither age nor race changed the relationship between sexual knowledge and total sexual behavior, same sex behavior, and opposite sex behavior.

Table 7

Relationhip Between Sexual Knowledge and a) Total Sex Behavior  b) Opposite Sex Behavior and c) Same Sexual Behavior Frequency Controlling for Race

<table>
<thead>
<tr>
<th>Predictor Variable</th>
<th>r</th>
<th>β</th>
<th>R</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Total Sexual Behavior</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Race</td>
<td>.003</td>
<td>.014</td>
<td>.058</td>
<td>.003</td>
</tr>
<tr>
<td>Sexual Knowledge</td>
<td>.056</td>
<td>.059</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Opposite Sexual Behavior</td>
<td>-.017</td>
<td>-.005</td>
<td>.062</td>
<td>.004</td>
</tr>
<tr>
<td>Race</td>
<td>.062</td>
<td>.061</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexual Knowledge</td>
<td>.010</td>
<td>.019</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Same Sexual Behavior</td>
<td>.038</td>
<td>.042</td>
<td>.042</td>
<td>.002</td>
</tr>
<tr>
<td>Race</td>
<td>.010</td>
<td>.019</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Relationships Between Sexual Behavior and Self-Esteem

Self esteem was measured using the Rosenberg Self-Esteem Scale (RSE) (Rosenberg, 1965). The scale is a 10-item Guttman scale with one dimension that has been used with a wide range of groups, including high school students, adults, and college students. Respondents were asked to denote the degree to which they agree or disagree with each statement (strongly agree;
agree; disagree; strongly disagree). The scale was scored by totaling the individual 4-point items after reverse scoring the negatively worded items (items 2, 5, 6, 8, 9). The range of possible scores was from lowest of 10 to highest of 40; lower scores indicated higher levels of self-esteem. The mean score was 17.6 ($N = 379$, $SD = 4.55$).

A Pearson product-moment correlation was calculated to examine if sexual behavior among emerging adult women changed as a function of self-esteem. There were no significant correlations between total sexual behavior and self-esteem, same sex behavior and self-esteem, or opposite sex behavior and self-esteem.

**Relationship Between Sexual Behavior and Sexual Attitudes**

Sexual attitudes of the college aged women were assessed using the Hendrick Sexual Attitude Scale (HSAS). (Hendrick & Hendrick, 1987). This 43-item instrument measures four attitudes of sexuality: Permissiveness, Sexual Practices, Communion in the Relationship, and Instrumentality. The Hendrick Sexual Attitude Scale is a 5-point, Likert-style scale. Respondents were asked to indicate the degree to which they agreed or disagreed with each statement (1 = strongly agree, 2 = moderately agree, 3 = neutral, 4 = moderately disagree, and 5 = strongly disagree). After reverse scoring items 19, 20, and 21, subscale scores were calculated by dividing the number of items in each subscale by the sum of the subscale items. Lower scores on this scale point toward more permissive sexual attitudes, with “one” being the lowest possible subscale score and “five” being the highest possible score for this scale. The Permissiveness subscale is made up of items 1-21; the Sexual Practices subscale includes items 22-28 (scores ranging from 7 to 35); items 29-37 form the Communion in the Relationship subscale; and the Instrumentality subscale incorporates items 38-43.

The mean score for the Permissiveness subscale was 4.15 suggesting more permissive sexual attitudes among the female college students. Mean scores for the remaining scales (Sexual Practices, Communion in Relationship, and Instrumentality) were 1.70, 2.25, and 3.21 respectively ($N = 379$), implying more permissive attitudes toward sexual practices and communion in relationship and more conservative attitudes with respect to instrumentality.

A Pearson product-moment correlation was calculated to examine the relationship between sexual behavior and sexual attitudes with sexual behavior treated as the criterion variable and each of the four attitude sub-scales (Permissiveness, Sexual Practices, Communion in the Relationship, and Instrumentality) considered as the predictor variables. Significant positive correlations were found between opposite sex behavior and the four sexual attitude subscales (See Table 8). Significant positive correlations were also observed between total sexual behaviors and all four sexual attitude subscales. Among same sex behaviors, significant correlations were found for the Permissiveness and Sexual Practice subscales.

<table>
<thead>
<tr>
<th>Sexual Attitude</th>
<th>a) Total Sex Behaviors</th>
<th>b) Opposite Sex Behavior</th>
<th>c) Same Sex Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permissiveness</td>
<td>.327**</td>
<td>.307**</td>
<td>.114*</td>
</tr>
<tr>
<td>Sexual Practices</td>
<td>.379**</td>
<td>.381**</td>
<td>.101*</td>
</tr>
</tbody>
</table>

*p < .05 (2 tailed), **p < .01 (2 tailed)
Table 8 Continued

<table>
<thead>
<tr>
<th>Sexual Attitude</th>
<th>a) Total Sex Behaviors</th>
<th>b) Opposite Sex Behavior</th>
<th>c) Same Sex Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communion in Relationship</td>
<td>.186**</td>
<td>.243**</td>
<td>.018</td>
</tr>
<tr>
<td>Instrumentality</td>
<td>.164**</td>
<td>.185**</td>
<td>.022</td>
</tr>
</tbody>
</table>

*p < .05 (2 tailed). **p < .01 (2 tailed)

Stepwise multiple linear regression was used to assess if age changed the relationship between sexual behavior and each sexual attitude sub-scale. Stepwise multiple linear regression was also used to assess if race changed the relationship between sexual behavior and each sexual attitude sub-scale. Age and race were treated separately as predictor variables along with each of the four subscales of sexual attitudes; sexual behavior continued to be the criterion variable in each case. Age was significantly related to total sexual behavior (r = .106, p < .05), and negatively related to each of the predictor variables; Sexual Permissiveness, Sexual Practice, Communion in Relationship, and Instrumentality (See Table 9). In the regression model for total sexual behavior, age was determined as a significant factor for Sexual Permissiveness (p < .001) and Sexual Practice (p < .001), Communion in Relationship (p < .001) and Instrumentality (p < .05).

When the relationship between sexual behaviors and sexual attitudes were examined by separating same sex behaviors and opposite sex behaviors, differences were found. For example, in opposite sex behavior, age was a significant factor for all sexual attitudes; Sexual Permissiveness (p < .001), Sexual Practice (p < .001), Communion in Relationship (p < .001), and Instrumentality (p < .001). However, age was not a factor when looking at sexual attitudes with same sex behaviors for all attitudes.

Table 9
Relationship Between Sexual Attitude and a) Total Sex Behavior b) Opposite Sex Behavior and c) Same Sexual Behavior Frequency Controlling for Age

<table>
<thead>
<tr>
<th>Predictor Variable</th>
<th>r</th>
<th>β</th>
<th>R</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Total Sexual Behavior</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.106*</td>
<td>.071</td>
<td>.334</td>
<td>.112***</td>
</tr>
<tr>
<td>Sexual Permissiveness</td>
<td>.327**</td>
<td>.319</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.106*</td>
<td>.036</td>
<td>.381</td>
<td>.145***</td>
</tr>
<tr>
<td>Sexual Practice</td>
<td>.379**</td>
<td>.373</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.106*</td>
<td>.096</td>
<td>.210</td>
<td>.044***</td>
</tr>
<tr>
<td>Communion in Relationship</td>
<td>.186**</td>
<td>.181</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.106*</td>
<td>.087</td>
<td>.186</td>
<td>.034**</td>
</tr>
<tr>
<td>Instrumentality</td>
<td>.164**</td>
<td>.153</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 9 Continued

<table>
<thead>
<tr>
<th>Predictor Variable</th>
<th></th>
<th>β</th>
<th></th>
<th></th>
<th>R</th>
<th></th>
<th>R²</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>b) Opposite Sex Behavior</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.121*</td>
<td>.088</td>
<td>.327</td>
<td>.107***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexual Permissiveness</td>
<td>.316**</td>
<td>.306</td>
<td>.327</td>
<td>.107***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.121*</td>
<td>.052</td>
<td>.380</td>
<td>.144***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexual Practice</td>
<td>.377**</td>
<td>.367</td>
<td>.380</td>
<td>.144***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.121*</td>
<td>.109</td>
<td>.248</td>
<td>.061***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communion in Relationship</td>
<td>.222**</td>
<td>.216</td>
<td>.248</td>
<td>.061***</td>
<td></td>
<td></td>
<td></td>
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*p < .05.  **p < .01.  ***p < .001

Relationship between sexual behavior and sexual attitudes controlling for self-esteem.

Stepwise multiple linear regression was used to assess if the relationship between sexual behavior and sexual attitudes changed when self-esteem was partialed out. Self-esteem was treated as a predictor variable along with each of the four sexual attitude subscales; sexual behavior continued to be the criterion variable in each case. Self-esteem was not significantly related to total sexual behavior. However, there were significant relationships between self-esteem and Sexual Permissiveness ($r = .319, p < .01$), Sexual Practice ($r = .379, p < .01$), Communion of Relationship ($r = .206, p < .05$), and Instrumentality ($r = .173, p < .05$). See Table 10. In the overall sexual behavior model, self-esteem was determined as a significant factor for Sexual Permissiveness ($p < .001$), Sexual Practice ($p < .001$), Communion in Relationship ($p < .001$), and Instrumentality ($p < .001$).

Self-esteem was significantly related to Sexual Permissiveness ($p < .001$), Sexual Practice ($p < .001$), Communion in Relationship ($p < .001$), and Instrumentality ($p < .001$).
esteem was not significantly related to same sex behavior and any of the sexual attitudes subscales.

Table 10
*Relationship Between Sexual Attitudes and a) Total Sex Behavior b) Opposite Sex Behavior and c) Same Sexual Behavior Frequency Controlling for Self-Esteem*

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<th>Predictor Variable</th>
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*p < .05. **p < .01. ***p<.001
Although race was not related to sexual behavior, the relationship between sexual behavior and the four sexual attitude scales (Sexual Permissiveness, Sexual Practice, Communion of Relationship, and Instrumentality) was influenced by race (See Table 11). In the overall model, race was a significant factor for Sexual Permissiveness (p < .05) and Sexual Practice (p < .05), Communion in Relationship (p < .05), and Instrumentality (p < .05). Race was a significant factor for all sexual attitudes in the model (Sexual Permissiveness (p < .05), Sexual Practice (p < .05), Communion in Relationship (p < .05), Instrumentality (p < .05). Race was not a significant factor for same sex behaviors.

Table 11

<table>
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<tr>
<th>Predictor Variable</th>
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<th>b) Opposite Sexual Behavior</th>
<th>c) Same Sexual Behavior</th>
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*p < .05
Table 11 Continued

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* $p < .05$

Relationship Between Sexual Behavior of Emerging Adult Women and the Perceived Sexual Attitudes of Their Parents

In order to obtain the students’ perception of their parents’ sexual attitudes, the Hendrick Sexual Attitude Scale was revised. Although the core questions remained the same, phrases such as “My parent/guardian believes…” or “According to my parent/guardian…” were inserted in order to facilitate the student’s response from the perspective of their most influential parent.

The question “The parent or guardian who influences my life most is...” was inserted prior to the parental version of the scale in order to determine from whose perspective the respondent was answering. Mothers were seen as the most influential parent in 79.7% ($n = 302$) of the sample; fathers were most influential in 11.9% ($n = 45$); grandmother 3.2% ($n = 12$), grandfather 0.5% ($n = 2$), and other 4.7% ($n = 18$) ($M = 1.39$, $SD = .951$). Examples of influential parents falling within the “other” category were coach, sister, and both mother and father.

The mean total score for the Sexual Permissiveness subscale was 95.68 ($SD = 8.52$) suggesting that college aged women perceive their parent’s attitudes toward sexual behavior as more conservative and less permissive. The mean score for the Communion in Relationship scale was 22.98 ($SD = 6.11$), implying student’s perceive their parents as feeling intimacy and relationship in sexual relations are important. Mean scores for the remaining scales, Sexual Practice and Instrumentality, were 16.05 ($SD = 4.80$) and 21.27 ($SD = 4.01$), respectively ($N = 379$).

Pearson product-moment correlations were derived to assess relations between college aged women’s sexual behavior and the perceived sexual attitudes of their most influential parent. These were designated by the equivalent sub-scales of the students’ sexual attitude scale, i.e., Permissiveness, Sexual Practices, Communion in the Relationship, and Instrumentality. Sexual behavior was treated as the criterion variable and each of the four attitude sub-scales were considered as the predictor variables. Significant positive correlations were found between opposite sex behavior and Sexual Practice ($r = .127, p < .05$); also between opposite sex behavior and Communion in Relationship ($r = .130, p < .05$) as shown in Table 12. A significant correlation was found between total sexual behaviors and the college aged women’s perceptions of their parents’ attitudes in the Sexual Practices subscale ($r = .115, p < .05$). No other significant correlations were found among college female sexual behavior and the perceptions of their parent’s sexual attitudes.
Table 12
Correlations Between Emerging Adult Female College Student’s Perception of their Parent’s Sexual Attitudes and Students’ Sexual Behavior

<table>
<thead>
<tr>
<th>Perceived Parents’ Sexual Attitudes</th>
<th>a) Total Sexual Behavior</th>
<th>b) Opposite Sex Behavior</th>
<th>c) Same Sexual Behaviors</th>
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*p < .05 (2 tailed)

Relationship Between Sexual Behavior and Risk Behavior

A 14-item questionnaire developed by Arnett (1994, 1996) was used to measure risk behavior. The respondents were asked to report the number of times within the past year that they had engaged in a range of reckless activities. The majority of response options were organized into the frequency range 0 times, once, 2-5 times, 6-10 times, and more than 10 times. For the two items addressing driving a motor vehicle over 80 miles per hour and driving a motor vehicle more than 20 miles over the speed limit, the frequency ranges were 0 times, 1-5 times, 6-10 times, 11-20 times, and more than 20 times. Consistent with reliability (.80) reported by Arnett (1996), reliability analysis revealed an alpha of .80 for this sample.

The most frequently reported risk behaviors were “had sex with contraception” ($M = 3.13, SD = 1.56$), “driven an automobile greater than 20 MPH over the speed limit” ($M = 2.88, SD = 1.27$), and “driven an automobile faster than 80 MPH” ($M = 2.83, SD = 1.25$). The least reported risk behaviors were “stolen item(s) worth more than $50” ($M = 1.63, SD = 0.37$), “vandalized” ($M = 1.14, SD = 0.47$), and “used illegal drugs (besides marijuana)” ($M = 1.37, SD = 0.93$).

Pearson product-moment correlations were calculated to examine relationships between sexual behavior and risk behavior with sexual behavior treated as the criterion variable and risk behavior as the predictor variable. Risk behavior was significantly related to total sexual behavior ($r = .425, p < .01$) and opposite sex behavior ($r = .455, p < .01$). Risk was not correlated to same sex behavior.

When examining if the relationship between sexual behavior and risk behavior is changed when self-esteem or sexual attitudes were partialed out, multiple linear regression was employed. Sexual behavior was used as the criterion variable. Risk behavior and self-esteem were predictor variables. Sexual behavior was also used as the criterion variable while risk behavior and the four sexual attitude subscales were used as the predictor variables. Self-esteem was not significantly related to risk behavior, yet appeared to relate to total sexual behavior ($r = .425, p < .01$). In the total sexual behavior model, self-esteem and risk behaviors moderated the relationship between sexual behavior and risk behavior ($p < .05$).

Sexual attitude contributed to the model between each of the four subscales of sexual attitudes and risk behaviors as they affected total sexual behavior. All of the
sexual attitude predictor variables; Sexual Permissiveness ($r = .296, p < .001$), Sexual Practice ($r = .237, p < .001$), Communion in Relationship ($r = .094, p < .001$), and Instrumentality ($r = .142, p < .001$) were significantly related to sexual behavior. However it appeared that risk behavior captured most of the variance in the relationships (Sexual Permissiveness, $p < .001$; Sexual Practice, $p < .001$; Communion in Relationship, $p < .001$; Instrumentality, $p < .001$).

Risk behavior appeared to be the stronger influence on opposite sexual behavior ($r = .449, p < .001$) than sexual attitudes. In the opposite sex model, all of the sexual attitude variables and risk behavior were determined as statistically significant factors for opposite sex behaviors with risk behavior contributing most within the model; Sexual Permissiveness ($p < .001$), Sexual Practice ($p < .001$), Communion in Relationship ($p < .001$), and Instrumentality ($p < .001$). Significant, yet weaker relationships were found within the same sex model as sexual attitude and risk behavior related to same sex behavior among the Sexual Permissiveness ($p < .05$), Sexual Practice ($p < .01$) subscales. See Table 13.

Table 13

<table>
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<th>Predictor Variable</th>
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*p < .05. **p < .01. ***p < .001
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*p < .05. **p < .01. ***p < .001
CHAPTER 5
DISCUSSION

Emerging adults experience changes in interpersonal relationships, sexuality, world view, and for some, changes in living arrangements that include college (Arnett, 2001; Lefkowitz, 2005). For many college students, moving away from parents offers greater freedom, less adult supervision, increased self-focus and autonomy, and more opportunity to explore personal values, beliefs, and attitudes (Arnett, 2001; Lefkowitz, 2005; Lefkowitz, et al., 2003). This period of intense exploration and change may make individuals particularly susceptible to engaging in high-risk behaviors (Arnett, 1992; Bradley & Wildman, 2002).

Social cognitive theory was used in this study to examine relationships among sexual behavior sexual knowledge, self-esteem, sexual attitudes, and risk behavior in addition to environmental influences such as perceived parental sexual attitudes. Social cognitive theory was a useful framework because it not only considers internal factors involved in individual decision making; it also considers interactions between an individual and their environment.

Sexual Behavior

Seventy six percent of the 379 college females in this study reported having engaged in heterosexual sexual activity, 81.6% having received coitus from a male; 76.2% having oral contact with male genitalia, and 14.8% engaging in anal intercourse, among other behaviors. This level of sexual activity is similar to those described in other studies of college students (Dinger & Parsons, 1999; Siegel, et al., 1999) and appears to be within the normal range for this age group. As behavior is learned through social interactions and through differential reinforcement, it appears that engaging in sexual activities has become more of the socialized norm than abstinence among the emerging adult college population. With the easy availability of condoms and birth control, especially at large universities, adult females may believe that the rewards (e.g., physical pleasure, emotional connection, and social acceptance) of engaging in sexual activities outweigh the potential costs (e.g., unwanted pregnancy, STI’s, HIV/AIDS, social stigmatism).

The majority of sexuality socialization in the United States is based on engaging in heterosexual activities. Ninety-six percent of the current sample reported primarily heterosexual orientation and activities, 1.6% reported as homosexual and 2.1% as bi-sexual. This corresponds closely to current societal norms described in The Kinsey Institute report (n.d.) indicating that 98% of females consider themselves heterosexual, while only 2% of females consider themselves homosexual. Over 91% of the sample had not engaged in a wide variety of same sex behaviors and reported that they had never engaged in same sex sexual activities such as manipulation of female breasts, oral contact with female genitalia, among others.

Although most females in the current sample reported heterosexual orientation, almost a quarter of the sample (22%) indicated having kissed another female with tongue contact, eluding that there may be an increased interest in or lessening of the taboo of some female same sex behaviors among this population. According to Farrar, Kunkle, Biely, Eval, Fandrich, & Donnerstein (2003) media portraits of sexual behaviors affect a person’s judgments about social norms, sexual behavior, sexual activities and attitudes. The current sample may be modeling a recent trend in the media of displaying more female same sex behavior among the emerging adult population (e.g., female-female tongue kissing by popular media stars such as Britney Spears and Madonna, and female-female tongue kissing and fondling on dating shows like The O.C., Next, Elimidate, Room Raiders, among others). In a review of research dealing with the media’s influence on sexual socialization, Ward (2003) found that through observing media
models (especially identifying with those seen as attractive, powerful, and similar) viewers learned which sexual behaviors were appropriate and inappropriate, rewarded and punished.

**Sexual Knowledge**

Female college students’ sexual knowledge scores were chiefly distributed along a normal curve, however the overall sample scored low on their sexual knowledge. Fifty percent of the sample scored within the 67-54 percentile range indicating below average sexual knowledge. Almost half of the sample (48.3%) scored below the 60 percentile level which in traditional terms means that they would have “failed the test” on sexual knowledge. These data demonstrated that a number of students were unaware of the effectiveness of some birth control and disease prevention measures. For example, only 24.8% of the sample was able to choose the most dependable form of birth control out of 4 multiple choice answers and 13.2% correctly choose the least dependable method of birth control. This knowledge deficit of disease prevention methods is a cause of concern especially in light of the social pressures to conform to the majority behavior regarding sexual practices. This puts forward an uncertainty of both the quality and quantity of sexual education these females have received. Raising the questions, what educational tactics are effective and how do we ensure that the relevant information is being received and retained in order for emerging adult college students to be able to make knowledgeable and safe decisions regarding their sexual health choices. Is the current information not being retained due to feelings of invincibleness or because an emphasis on abstinence is not seen as relevant to a sexually active population?

**Sexual Behavior and Sexual Knowledge**

The sexual knowledge among emerging adult females was not a good predictor of their sexual behavior as no significant relationship was found between sexual behavior and sexual knowledge. This is consistent with research that denotes the majority of sexuality education neither increases nor decreases a person’s likelihood of engaging in sexual activities and protecting themselves against pregnancy, STI’s or HIV/AIDS (Grunseit, et al., 1999; Hays & Hays, 1992; Shapiro, et al, 1999). Grunseit, et al. (1999) reviewed 47 studies that evaluated sexuality education interventions; twenty five studies reported neither increases nor decreases in sexual activity and disease/pregnancy prevention behaviors. The large number of females engaging in sexual activity and the inadequate knowledge they retained in regards to self protective strategies suggests that knowledge by itself is unlikely to act as a deterrent to sexual behavior. It also questions the current quality and quantity of sexual education to which these emerging adults have been exposed, including abstinence only education.

According to social cognitive theory, behavior is learned through social interactions and differential reinforcement. People can develop anticipatory responses to signaling stimuli based on what they are told about experiences without directly encountering it for themselves (Bandura, 1977, 1999). This has implications for promoting safe sexual behaviors through education. For example, an emerging adult may be able learn the importance of safe sexual behaviors from the negative experiences of another young adult. Peer-to-peer education may be potentially powerful for this population. A study of students in Rome, Italy showed an increase in sexual knowledge, skills, attitudes, and risk perception by those who received education by peers as compared to those receiving education by a professional teacher (Borgia, Marinacci, Schifano, & Perucci, 2005).

Consistent with current research (Huerta-Franco, & Malacara, 1999), age was related to sexual behavior in the total and opposite sex behavior models; as a person becomes older, they females tended to have less permissive sexual attitudes than males. This may be evidence that
are more likely to engage in sexual activity, modeling the behaviors of older emerging adults. Emerging adulthood is a time for sexual exploration. The majority of emerging adults have had sex by the time they have reached their late teens and are more likely to engage in casual sexual relationships (Arnett, 2001; Lefkowitz, 2005). Bradley and Wildman (2002) found that as emerging adults’ age, they report more frequent involvement in reckless sexual behaviors and that this may be due to less parental supervision, more peer pressure, and changes to more liberal sexual attitudes throughout college (Arnett, 2001; Lefkowitz, 2005).

The relationship between sexual behavior and sexual knowledge was not mediated by race. Previous research (CDC, 2003) indicated that Black females report early initiation of sexual behaviors than their White counterparts. However, there was only a slight difference between Black and White female sexual behavior frequencies by 12th grade. Socioeconomic status may have been a more important variable than race in this study as the mean family income was $55,275 (SD = 1.53). Current research (Feldman, 2006) indicated that socioeconomic status plays a major role in negating the knowledge differences of students; that achievement differences between racial groups vanishes when socioeconomic status is taken into consideration. Regardless of race, the college females in this study may have had similar experiences and access to sexual education based on similar socioeconomic statuses. Socializing forces such as such as peer group, work units, schools, churches, sororities, may also be similar for these females.

**Sexual Behavior and Self-Esteem**

There were no significant correlations between the sexual behavior of the college aged females and self-esteem. This is consistent with Miller et al. (1987) and Hendrick and Hendrick (1987) who found that there was very little variation in sexual behavior explained by self-esteem and that the relationship may have more to do with attitudinal permissiveness and culture. That is, one might expect a positive relationship related to self-esteem and sexual behavior for those with more permissive sexual attitudes, i.e., who believe premarital sex is not wrong, while expecting a negative relationship between self-esteem and sexual behavior among those with less permissive attitudes, i.e., who believe premarital sex is wrong.

Female college students also may underestimate their risk of engaging in high incidences of sexual behavior in order to protect their self-esteem and ease their anxiety about engaging in potentially risky behavior (Kershaw, et al., 2003). Hagenhoff, et al. (1987) theorized that high levels of self-esteem may actually increase sexual behaviors in emerging adults, as they may feel invincible and protected from harm. When a female student engages in sexual behaviors with no negative consequences, the behavior is reinforced. It may be further reinforced, vicariously, if the family or peer group is also engaging in these behaviors with no negative consequences. In some cases, engaging in sexual activities may actually bolster a persons status within their group, thus either not affecting their self-esteem or positively boosting it.

**Sexual Behavior and Sexual Attitudes**

Female students in this study reported permissive sexual attitudes. In an earlier study Hendrick and Hendrick (1995) concluded that people in general were not very permissive and the sexual attitudes of females are becoming more permissive over time and more reflective of a historically permissive male attitude. In a study comparing younger and older adults, Le Gall, Mullet, and Shafighi (2002) found more permissive sexual attitudes among younger adults than older adults. Kershaw, et al. (2003) suggested that female college students may underestimate their risk in order to protect themselves from the anxiety about engaging in potentially risky behavior. Students may succumb to the pressures to engage in sexual behaviors from peers, media, among
others, for the perceived rewards (e.g., personal pleasure, social acceptance, etc.). The lower anxiety of social acceptance and support may counterbalance the perceived negative consequences (e.g., unwanted pregnancy, STIs, and HIV/AIDS).

The strongest relationships emerged within the Sexual Permissiveness and Sexual Practice subscales among total, opposite, and same-sex behaviors. This suggests that college students are willing to engage in sexual behaviors as long as one is educated and responsible about sexual practices. This does not reflect the main focus of most sexuality education in our society – abstinence – but does reflect a more liberal and effective stance as sexual behavior relates to positive health outcomes (Weaver, Smith, & Kippax, 2005). It is troublesome considering the lack of sexual knowledge reflected by this particular sample concerning protective measures. However, a positive sense of mastery over making positive sexual health choices may further facilitate one’s sense of their ability to manage sexual situations. For example if a person feels capable of protecting themselves against STIs, unwanted pregnancy, etc., they may feel more free to engage in sexual behavior. When positive outcomes are obtained, the behavior and attitude may be reinforced.

Although race was not related to sexual behavior alone, the relationship between sexual behavior and the four sexual attitude subscales was moderated by race in the current sample. Like age, race was found to be a significant factor for sexual permissiveness and sexual practice among this sample of college students. Hendrick and Hendrick (1987) found the strongest racial differences in sexual permissiveness and sexual practice with Whites reporting more permissiveness and scoring higher in regards to sexual practices than Blacks. A higher incidence of sexual practice was related to increased use of birth control, sex education, and acceptability of sexual behaviors such as masturbation.

Benda and Corwyn (1998) found significant differences between Black and White females as they related to peer associations. Blacks were found to be more influenced by sexually active peers than Whites. Blacks may use sex as a means to pull a partner deeper into a relationship or to have a baby to love (Benda & Corwyn, 1998) which relates to the findings in this study among race and the value of intimacy and relationship in sexual behavior, i.e., communion in relationship. Hendrick and Hendrick (1987) also found attitudinal differences in their samples based on geographic region. These findings point to a further need to address the cultural and ethnic differences in the formation of sexual attitudes.

Sexual Behavior and the Perceived Sexual Attitudes of Parents

Perceived parental values regarding sexual behavior has been found to affect intercourse experiences (Luster & Small, 1994; Miller, 2002; Small & Luster, 1994). For example, those who perceived their parent’s, as accepting premarital sexual activity, were more likely to be sexually experienced (Miller, 2002). In the current sample, the majority of female college students rated their perception of their parents’ sexual attitudes as less permissive and more conservative. However, the students reported themselves as possessing more permissive and lenient sexual attitudes. Mothers were reported as the most influential parent for nearly eighty percent of the female students. In agreement with their own attitudes, the females indicated that their parents’ felt concepts such as intimacy and relationship were important in sexual relations. In addition, significant relationships were found for reported sexual practices such as responsibility for birth control and sex education. Baldwin and Baranoski (1990), and Rosenthal and Collis (1997) found that the focus of most parental education relates to physical development and sexual safety rather than relationship and emotional issues. Consistent with social cognitive theory it would be expected that the attitudes of the emerging adult females would be similar to the perception they had of their most influential parent. As parents are a strong socializing force in the life of a child and adolescent, it seems reasonable that the emerging adults in this study
would learn, model, and develop similar attitudes to those of their parents. However, these students only adopted the attitudes relating to sexual practice and communion in relationship similar to their most influential parent. The difference in sexual permissive attitudes between the sample and their parents further underscores the concept that emerging adults may underestimate their risk behavior or may be exploring their value system.

An additional difference within the perceived attitude model was that communion in relationship was significant for opposite sex behavior indicating that the females viewed their parents as believing emotional connection is important in sexual relationships. College females may have obtained these perceptions by the parents’ modeling of behavior and attitudes, not by parental discussion or purposeful parental education. Rosenthal and Feldman (1999) found that the majority of parents never discussed issues such as sexual desire, talking about sexual needs with partner, and sexual satisfaction. Overall, most studies focus on parental discussion as it relates to sexual health and safety, not emotional issues (Fisher, 1989; Pistella & Bonati, 1998; Powell & Segrin, 2004; Whitaker et al., 1999).

No significant relations were found between female college student’s perception of their parents’ sexual attitudes and same sex behavior, indicating there may be a disconnection between these females and their parents as it relates to same sex sexual communication. As same sex behaviors are not considered the norm in our society, many parents may not discuss these issues or may hold negative attitudes about these types of behaviors. Those engaging in same sex behaviors may be limited based on their models for these types of behavior, as most are raised in heterosexual households. Parke (2003) found that in 2000 only 163,000 of the 71.5 million children in the United States lived in households with same-sex parenting arrangements.

**Sexual Behavior and Sexual Attitudes Controlling for Self-Esteem**

Hendrick and Hendrick (1987) indicated that those scoring high in permissiveness towards various sexual behaviors were untroubled by sexual guilt, and were likely to have numerous casual sexual encounters. They also found that college students who reported high self-esteem also reported themselves as more sexually permissive, more endorsing of sexual practices, and held stronger feelings of emotional connection. In the current sample no significant relationships between self-esteem and sexual behavior were found. However, self-esteem was related to sexual permissiveness and sexual practice in the overall model and in the opposite sex model. Self-esteem relates to self-efficacy and locus on control in that self-esteem is associated with one’s perceived level of competency in successfully carrying out the necessary behaviors and thoughts to produce a successful outcome. An emerging adult who feels confident in her ability to protect herself from harmful sexual health outcomes while still having the benefit of engaging in sexual behavior may be more likely to participate in such activities. The behavior is reinforced when there are no negative consequences; the behavior is reinforced. Self-esteem was not a significant factor in the relationship between same sex behavior and any of the sexual attitude subscales. Langer, et al. (2001) found no link between self-esteem and sexual behaviors in a sample of university students. Miller et al. (1987) indicated that self-esteem was related to personal values and attitudes in that those who believe that sex is acceptable will associate positively with engaging in sexual behaviors and those who believe sex is unacceptable will associate negatively with sexual behaviors. If young adults believe that engaging in same sex behavior is acceptable, they may be more willing to do so without any negative consequences to their value system. That is, they believe the rewards outweigh the potential negative consequences.
People in their late teens and early twenties have been shown to engage in risk behaviors including high-risk sexual behavior, more often than people in any other age groups (Arnett, 1996; Gullone, et al., 2000; Zuckerman, 1979). The sexual behavior of this sample was significantly related to risk behavior. Those who reported greater frequencies of risk behaviors such as exceeding the speed limit by 20 miles per hour over the posted speed limit, driving an automobile over 80 miles per hour, smoking marijuana, or driving while intoxicated, among others, were more likely to engage in high risk sexual behavior (e.g., sex without contraception, sex with people you don’t know well). Over 76% of female college students in this sample were sexually active and many engaged in high-risk sexual activity, such as sex without contraception or having sex with someone they did not know well. This finding is consistent with Arnett (1996) who found that sex without contraception and sex with someone known only casually were higher for college students than other age groups.

Sexual attitude contributed a small amount to the total and opposite sex behavior models when examining sexual attitudes and sexual behaviors as predictors of risk behavior. However, sexual behavior continued to be the stronger predictor of risk behavior. It may be that emerging adult college females underestimate their risk taking behaviors, reflected in Kershaw, et al. (2003) where 51% of the females underestimated their sexual risk taking behaviors. Gullone, et al. (2000) and Hollander (2003) also suggested that some people who may be risk takers do not recognize the potential consequences of risk behavior and do not see the consequences as profound. Rolison and Scherman (2002) also found that perceived risk correlated negatively with risk involvement. Although there is a vast amount of information available to college students concerning the dangers of engaging in high-risk sexual behaviors (e.g., unprotected sex, multiple partners, among others), it appears that they may not perceive themselves to be in great jeopardy while engaging in these behaviors.

Hendrick and Hendrick (1996) reported that young adults in their study conveyed less instrumentalist attitudes with regard to sexual behavior. In the current sample, sexual permissiveness, sexual practice, communion in relationship, and instrumentality (e.g., the main purpose of sex physical enjoyment, is sex primarily about taking pleasure from another person, or best when focusing on your own pleasure) appeared to have an impact on risk behavior among college students who engaged in same sex behaviors. A relationship also existed with same sex behavior, sexual permissiveness, and sexual practice as they relate to risk behaviors. Johnson, et al. (2002) reported that many adolescents know the potential negative outcomes of engaging in some high-risk behaviors, yet they may perceive themselves as being at less risk when engaging in those same behaviors. Weinstein and Klein (1996) termed this “unrealistic optimism” and reported it in both adolescents and young adults. It may be that those with permissive attitudes, who engage in higher risk activities, hold the belief that responsibility in these behaviors is important (i.e., sexual practice), yet fail to act responsibly because they perceive themselves at less risk. Personally engaging in these high-risk behaviors and knowing others who have done the same without negative outcomes may further reinforce the behavior and lead to participation in higher risk situations.

Limitations in the Study

Every effort was made to control for threats to internal and external validity. Measures with reported reliability were used where appropriate and pre-post testing was conducted on measures that had to be changed. Although the SEI was revised and pre-
post tested with good results prior to administering it to the current sample, a more current measure of sexual behavior that incorporates same and opposite sex behaviors with a history of reported reliability and validity, would be a beneficial addition to measures of sexuality. Most research relies on self-made questions which raises uncertainty about reliability and validity from those measures.

A more diverse group of participants (i.e., cultural, age, socioeconomic status) would improve the generalizability of this study to more varied population. The current study can be generalized to emerging adult female college students within the current population. Further, it is assumed that the respondents answered the questions honestly. It has been suggested (Alexander & Fischer, 2003) that, in general, most participants answer sexual behavior questions honestly, however as questions become more unconventional, self-reports may be influenced by normative expectations instead of actual rates of behavioral engagement. Conditions of confidentiality were clearly communicated to all subjects in hopes of promoting confidence and honesty in self-reporting behaviors and beliefs.

Although there were some significant differences in the sample reporting same sex behaviors, the small size of the sample (4%; N = 15) limits any generalizability of the results. Nevertheless, a larger percentage of females 22% (N = 73) indicated having engaged in kissing behavior with another female, eluding that there may be an increased interest in or lessening of the taboo of some female same sex behaviors. More research is needed with a population that engages in same sex behaviors while reporting primary heterosexual orientation. Although this study examined several variables influencing sexual behavior among college aged women, it also points to areas in need of further research for this population. Self-esteem alone was not a good predictor of sexual behavior. The addition of a measure of sexual self-efficacy, which incorporated locus of control, would give further depth to the research especially as it relates to sexual attitudes and one’s effectiveness in asserting and employing protective sexual measures with a partner are needed. Areas of interest would include relationships among cultural differences, peer/organizational/media influences, alcohol use and drug use as they relate to high risk sexual behavior on campuses. Continued investigation of the related influences that affect the decision making skills of college females will further outline a comprehensive agenda for explaining high risk sexual behavior among this population and aid in the development of more comprehensive and effective educational programs.

Implications

Research

Sexual risk taking is more complicated than just having the knowledge to protect oneself. There remains a need to understand the interaction of knowledge and core interpersonal cognitive reasoning that emerging adults draw on which allow them to engage in high-risk behaviors. Self-esteem may only play a marginal role. More important for future research may be sexual self-efficacy, especially as it relates to females, their emphasis on relationships in developing a sense of self, and sexual practices. Another major area of concentration might be to study emerging adults’ beliefs about the circumstances that lead to safe and unsafe behaviors, and their definition of responsible sexual behavior. How do their beliefs play out in their behavior? How do they perceive risk and how does that relate to attitudes and behaviors? How is normal responsible sexual behavior defined for this population? As past risk behavior was a strong determinant in current risk behavior, especially important is promotion of efficacy
regarding females’ perceived skill and comfort with overcoming situational pressures as they relate to sexual behavior.

The combination of permissive sexual attitudes and high-risk behavior was particularly salient to sexual behavior. Specific relational effects among these variables can be studied using more sophisticated causal modeling such as structural equation modeling. However researchers must also realize that sexual behavior is shaped by other factors such as culture, aging, maturation, psychosocial processes, living arrangements, and values (Langer, et al., 2001).

High-risk sexual behavior continues to be a problem on college campuses and among the emerging adult population. Public education on protection against disease and pregnancy is not enough to curb high-risk sexual behavior. The current educational training appears to be ineffective in changing overall behaviors. One must challenge the current federal policy emphasis on abstinence only education as it relates to adolescent and emerging adult populations. When research indicates the majority of this population is sexually active, how can abstinence education be relevant or helpful in preventing sexual risk behaviors? Research that emphasizes the perceived relevance of current sexual education programs and defines responsible sexual behavior from an emerging adult’s perspective would be beneficial in developing a comprehensive sexual education program for this population. Education programs and materials must be relevant to real-life behaviors, offer information on responsible norms, and connect females with others either peer-to-peer or social groups.

What role can institutionalized learning environments, parents, and peers play in developing sex education curriculum that is effective in helping students make sound sexual decisions that do not put them or their partners at risk for disease and pregnancy? Although parents and their emerging adult children tend to have similar attitudes toward sexual safety issues and relationship, parents may not have a great amount of influence on sexual permissiveness once college women leave home. Peers may play a more significant role than parents in the college environment. Further research exploring the specific influences of peers and congruence of sexual attitudes is needed.

What roles do alcohol and drugs play in risk taking and how can the college/university intervene? College organizations and the underlying culture of the school can play a crucial role in affecting the sexual behaviors of its students. Peer to peer education can be developed; therapeutic interventions can be designed that help students understand the underlying reasons for engaging in risk behaviors; the college socialization atmosphere can be altered to promote safe, health enhancing environments.

Clinical Practice

Unique from most male’s perspectives, females approach sexual activities in terms of intimacy, emotion, commitment, and relationship (Knox, et al., 2001). Safe sexual behavior may be about an emerging adult female having the knowledge about what constitutes safe and unsafe sexual behavior, believing that he or she will be able to use the methods (self-efficacy), anticipating or obtaining a benefit for accomplishing the behavior, and having close bonds with individuals or social groups that communicate and model positive outcomes for safe sexual behaviors. Because internal beliefs and external influences impact behavior and level of personal functioning, social cognitive theory is also linked to clinical practice. Bussey and Bandura (1999) describe therapeutic techniques that help therapists instill a strong sense of mastery among their client population; a) help clients determine their own capabilities and limitations while constructing experiences that maximize an individual’s chances of success, b) discuss or provide successful models to motivate accomplishment, c) challenge flawed beliefs and provide support, and d) attempt to reduce environmental factors that may hamper opportunities.
For therapists, it is essential to promote health and growth with clients. Empowering clients to behave in ways that ensure their physical safety is paramount, as is unearthing underlying reasons why a person may choose to act in self-destructive ways sexually. Also important is establishing insight into faulty perceptions of invincibility related to engaging in high-risk sexual behavior and consideration to alternative experiences. Incorporating risk assessments in the context of relationships and personal safety perceptions may help therapists better understand perceptions and motivations of clients in engaging in risk behaviors.

Sexual behavior also has complex components within the realm of relationships and personal well-being. Expectations of trust and intimacy, personal gratification and fulfillment, communication and empathy all play into sexuality (Schnarch, 1991). Therapists would benefit from a depth of understanding the interpersonal reasoning for sexual decision making and how that relates to relationships for females. Better assessment tools could be developed, specific treatments could be developed and employed, and educational materials modeled on a more clear understanding of what works and what does not work in understanding sexuality related issues. Emerging adults remain at risk for STI’s, HIV/AIDS, and other unfavorable health outcomes due to sexual risk taking behaviors. They should continue to be a focus of future research.
APPENDIX A: Informed Consent
Florida State University
Relationships Between Sexual Behaviors, Sexual Knowledge, Self-Esteem, and Sexual Attitudes in College Females

Informed Consent Form

I, _________________________________________, freely and voluntarily and without element of force or coercion, consent to be a participant in the research project entitled “Relationship Between Sexual Behaviors with Respect to Sexual Knowledge, Self-Esteem, and Sexual Attitudes in College Females.”

This research is being conducted by Lucille H. Byno, M.S., CFLE, who is a doctoral candidate in Marriage and Family Therapy at the Florida State University. I understand the purpose of her research is to better understand the relationships between sexual behavior and sexual knowledge, sexual attitudes, and self-esteem in college females. I understand that if I participate in the project I will be asked questions about my sexual attitudes, knowledge, and behavior.

I understand I will be asked to fill out paper and pencil questionnaires. The total time commitment will be about 45 minutes to one hour. My questions will be answered by the graduate researcher or she will refer me to a knowledgeable source.

I understand that my participation is totally voluntary and I may stop participation at any time. All my answers to the questions will be kept confidential to the extent allowed by law, and identified by a subject code number. To help insure added privacy and confidentiality while answering the questionnaire, I will be set apart from other participants by no less than one empty seat; I will also be given a blank envelope in which to deposit my completed questionnaire prior to returning to the researcher. All completed questionnaires will be kept in a locked file cabinet at the home of Ms. Byno. Only Ms. Byno and the members of her dissertation committee (Dr. Ronald Mullis, Dr. Mary Hicks, Dr. Nicholas Mazza, and Dr. Gary Peterson) will have access to the data. My name will not appear on any of the results. No individual responses will be reported. Only group findings will be reported. All questionnaires will be destroyed after five years.

I understand there is a possibility of a minimal level of risk involved if I agree to participate in this study. I might experience anxiety when exploring sexual issues. The graduate researcher will be available to talk with me about any emotional discomfort I may experience while participating. I am also able to stop my participation at any time I wish.

I understand there are benefits for participating in this research project. My own knowledge may be increased concerning protective and risk factors that influence my sexual behaviors based on sound scientific research. Also, I will be providing professionals with valuable information concerning the relationship between sexual behavior and sexual knowledge, sexual attitudes, and self-esteem in college females. This knowledge can assist them in developing educational curricula, providing workshops, and enhancing therapy.

I understand that this consent may be withdrawn at any time without prejudice, penalty, or loss of benefits to which I am otherwise entitled. I have been given the right to ask and have answered any inquiry concerning the study. Questions, if any, have been answered to my satisfaction.

I understand that I may contact, Lucille H. Byno or Dr. Ronald L. Mullis, Florida State University, College of Human Sciences, Department of Family & Child Sciences, 850-644-5756, for any questions about this research or my rights. Group results will be sent to me upon request. If I have any questions about my rights as a subject/participant in this research, or if I feel I have been placed at risk, I can contact the Chair of the Human Subjects Committee, Institutional Review Board, through the Vice President for the Office of Research at (850) 644-8633.

I have read and understand this consent form.

______________________________________________________________  ________________
Participant Name      Date
APPENDIX B: Human Subjects Committee Application and Approval
FLORIDA STATE UNIVERSITY  Application No.:
Human Subjects Application
to the INSTITUTIONAL REVIEW BOARD
for RESEARCH INVOLVING HUMAN SUBJECTS

The Federal Government and University policy require that the use of human subjects in research be monitored by the Institutional Review Board (IRB). The following information must be provided when humans are used in research studies, whether internally funded, extramurally funded or unfunded. Research in which humans are used may not be performed in the absence of IRB approval.

PLEASE COMPLETE AND SUBMIT PAGES 1 AND 2 plus YOUR ANSWERS TO THE QUESTIONS (on page 3) IN TYPEWRITTEN FORM TO:  HUMAN SUBJECTS COMMITTEE, Mail Code 2763, or
2035 E. Paul Dirac Drive, Box 15
100 Sliger Bldg., Innovation Park
Tallahassee, FL  32310

Researcher:  Lucille H. Byno  Date:  May 25, 2004

Project Title:  Relationship Between Sexual Behaviors with Respect to Sexual Knowledge, Self Esteem, and Sexual Atitudes in College Females

Project Period (starting/ending dates):  June 11, 2004 – June 1, 2005

Position in University (faculty, etc.)  If student, please indicate FSU Faculty Advisor:  Dr. Ronald Mullis, faculty advisor

Department:  Family & Child Sciences

Telephone:  850 322-8535  E-Mail Address:  lhb2958@garnet.acns.fsu.edu

(where you can be reached in case of a problem with your application)

Mailing Address (where your approval will be mailed):  8588 Hannary Circle, Tallahassee, FL 32312

Project is (please check one):  X dissertation  _____ teaching  _____ thesis  _____ other

Project is:  X unfunded  _____ funded (if funded, please complete the following):

Funding Agency (actual/potential):  1. ____________________________  2. ____________________________

Contract/Grant No. (if applicable):

FOR EVALUATION OF YOUR PROJECT, PLEASE CHECK THE FOLLOWING WHICH APPLY:

☐ Mentally or Physically Challenged Subjects  ☑ Subjects studied at FSU
☐ Children or Minor Subjects (under 18 years old)  ☑ Subjects studied at non-FSU location(s)
☐ Prisoners, Parolees or Incarcerated Subjects  ☐ Students as Subjects
☐ Filming, Video or Audio Recording of Subjects  ☐ Employees as Subjects
☐ Questionnaires or Survey(s) to be administered  ☐ Pregnant Subjects
☐ Review of Data Banks, Archives or Medical Records  ☐ Fetal, placental or surgical pathology tissue(s)
☐ Oral History  ☐ Involves Blood Samples (fingerpricks/venipuncture, etc.)
☐ Subjects’ major language is not English
☐ Involves Deception (if yes, fully describe at Question No. 7)
☐ Exclusion of Women or Children Subjects (must explain why they are being excluded)

This document is available in alternative format upon request by calling (904) 644-8633
Survey Techniques: Check applicable category if the only involvement of human subjects will be in one or more of the following categories:

__________ Research on normal educational practices in commonly accepted educational settings

__________ Research involving educational tests (cognitive, diagnostic, aptitude, achievement)

X____ Research involving survey or interview procedures (if checked, please see below)

__________ Research involving the collection or study of existing data, documents, records, specimens

If research involves use of survey or interview procedures to be performed, indicate:

1. Responses will be recorded in such a manner that human subjects cannot be identified, by persons other than the researcher, either directly or through identifiers linked to the subjects.

   X yes ___ no

2. Would subject’s responses, if they became known outside the research, reasonably place the subject at risk of criminal or civil liability or be damaging to the subject’s financial standing or employability.

   ___ yes X no

3. The research deals with sensitive aspects of the subject’s own behavior, such as illegal conduct, drug use, sexual behavior, or use of alcohol.

   ___ no

____ X yes

__ no

Does Research Involve Greater Than Minimal Risk to Human Subjects? _______ Yes ___X____ No

(If yes, explain in full at Question No. 2)

"Minimal Risk" means that the risks of harm anticipated in the proposed research are not greater, considering probability and magnitude, than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests.

I HAVE READ THE FLORIDA STATE LETTER OF ASSURANCE FOR THE PROTECTION OF HUMAN SUBJECTS IN RESEARCH AND AGREE TO ABIDE BY IT. I ALSO AGREE TO REPORT ANY SIGNIFICANT AND RELEVANT CHANGES IN PROCEDURES AND INSTRUMENTS AS THEY RELATE TO SUBJECTS TO THE CHAIR, HUMAN SUBJECTS COMMITTEE, OFFICE OF RESEARCH.

May 27, 2004

RESEARCHER (signature)       (Date)

May 27, 2004

FSU FACULTY ADVISOR (signature)       (Date)

(Application will not be processed without Advisor’s signature)

Page 2          Human Subjects Application (rev. 11-99)
Questions
FOR RESEARCH INVOLVING HUMAN SUBJECTS
USE ADDITIONAL SHEETS FOR ANSWERING THE FOLLOWING QUESTIONS
PLEASE SUBMIT YOUR ANSWERS IN TYPEWRITTEN FORM

1. **GIVE A COMPLETE DESCRIPTION OF YOUR RESEARCH PROCEDURES AS THEY RELATE TO THE USE OF HUMAN SUBJECTS.**
   
   200 female undergraduate students will be recruited from classes with in the Department of Family & Child Sciences. They will be asked to voluntarily fill out paper and pencil questionnaires. Participants will complete the Rosenberg Self-Esteem Scale (RSE), the 24-item version of the Miller-Fisk Sexual Knowledge Questionnaire (SKQ), the Hendrick Sexual Attitude Scale (HSAS), a revised HSAS which reflects the student’s perception of their parent’s sexual attitudes, the Sexual Experience Inventory, and a demographic information sheet. The total time commitment will be approximately 30 minutes to one hour. There will be no incentive for participation.

2. **HAVE THE RISKS INVOLVED BEEN MINIMIZED AND ARE THEY REASONABLE IN RELATION TO ANTICIPATED BENEFITS OF THE RESEARCH, IF ANY, TO THE SUBJECTS AND THE IMPORTANCE OF THE KNOWLEDGE THAT MAY REASONABLY BE EXPECTED TO RESULT?**
   
   WHAT PROVISIONS HAVE BEEN MADE TO INSURE THAT APPROPRIATE FACILITIES AND PROFESSIONAL ATTENTION NECESSARY FOR THE HEALTH AND SAFETY OF THE SUBJECTS ARE AVAILABLE AND WILL BE UTILIZED?
   
   There is a possibility of a minimal level of risk involved from participation in this study. The students may experience anxiety when exploring sexual issues. The graduate researcher will be available to talk with the student about any emotional discomfort they may experience while participating and can be referred to an appropriate mental health provider if necessary. Two free therapy sessions will be provided by the graduate researcher, if any participant desires. Any participant will be instructed that they may stop their involvement at any time.

3. **DESCRIBE PROCEDURES TO BE USED TO OBTAIN INFORMED CONSENT.** (See attached sample and tips on Informed Consent attached to this application.) *Attach a copy of the informed consent you will use when submitting this application.*

   ALSO, PLEASE ANSWER THE FOLLOWING:

   (A) **WHO WILL BE OBTAINING INFORMED CONSENT?**

   (B) **WHEN WILL THE SUBJECTS BE ASKED TO PARTICIPATE AND SIGN THE CONSENT FORM?**

   (C) **IN USING CHILDREN, HOW WILL THEIR ASSENT BE OBTAINED?** (“Assent” is an additional requirement. Please see attached sample regarding this procedure.)

   Prior to data collection, each participant will be informed of the voluntary nature of participation, the protection of participant confidentiality, and the intended use of the information. Students who agree to participate will read and sign the informed consent form prior to completing the questionnaires. The graduate researcher will be on site to review the form and answer any questions.

4. **DESCRIBE HOW POTENTIAL SUBJECTS FOR THE RESEARCH PROJECT WILL BE RECRUITED.**

   The researcher will contact individual instructors of introductory level courses in the Department of Family & Child Sciences to provide a description of the study, to obtain permission to recruit participants. After obtaining permission from the instructor, the researcher will present an overview of the study to the class, explain the voluntary nature of participation, make clear participant confidentiality, and request female student participation. There will be no penalty from
the instructor for not participating. Those willing to participate will be given a schedule, including 3-4 options of dates/times, in which they can voluntarily come to fill out the questionnaire.

5. **WILL CONFIDENTIALITY OF ALL SUBJECTS BE MAINTAINED? HOW WILL THIS BE ACCOMPLISHED? PLEASE ALSO SPECIFY WHAT WILL BE DONE WITH ALL AUDIO AND/OR VISUAL RECORDINGS, IF APPLICABLE, PICTURES AND PERSONAL DOCUMENTATION OF SUBJECTS BOTH DURING AND AFTER COMPLETION OF THE RESEARCH.**

To maintain confidentiality to the extent allowed by law, the participants name will only appear on the Informed Consent. There will be no identifying information on the questionnaire packet and therefore no way to match the informed consent with the questionnaire. At the beginning of data collection, the student will complete the informed consent and exchange the completed informed consent form for the questionnaire packet to further insure confidentiality. The Informed Consent form will be kept separately from all questionnaires. There will be no audio or visual recordings. Both Informed Consent and Questionnaires will be kept in separate locked cabinets at the home of Ms. Byno until destroyed by shredding within five years.

6. **IS THE RESEARCH AREA CONTROVERSIAL AND IS THERE A POSSIBILITY YOUR PROJECT WILL GENERATE PUBLIC CONCERN? IF SO, PLEASE EXPLAIN.**

A small portion of the questionnaire deals with the sexual behaviors of the student. No controversy or public concern is anticipated.

7. **DESCRIBE THE PROCEDURE TO BE USED FOR SUBJECT DEBRIEFING AT THE END OF THE PROJECT. IF YOU DO NOT INTEND TO PROVIDE DEBRIEFING, PLEASE EXPLAIN.**

Upon completion of the questionnaires, all participants will hear the following:

“Thank you for your participation in this project. By sharing your information, you have provided us with valuable information concerning the relationships between sexual behavior with respect to sexual knowledge, self-esteem, and sexual attitudes of female college students.

If anything discussed today has stirred up any uncomfortable feelings and you would like to discuss then with a therapist, I will be happy to provide you with 2 free therapy sessions or refer you to another certified mental health provider.

Do you have any questions? If you have any questions later, please feel free to contact me at 850.322.8535.”
Office of the Vice President For Research
Human Subjects Committee
Tallahassee, Florida 32306-2763
(850) 644-8633 · FAX (850) 644-4392

APPROVAL MEMORANDUM

Date: 7/2/2004

To:
Lucille Byno
8588 Hannary Circle
Tallahassee FL 32312

Dept.: FAMILY & CHILD SCIENCE

From: John Tomkowiak, Chair

Re: Use of Human Subjects in Research
Relationship Between Sexual Behaviors with Respect to Sexual Knowledge, Self Esteem, And Sexual Attitudes in College Females

The forms that you submitted to this office in regard to the use of human subjects in the proposal referenced above have been reviewed by the Human Subjects Committee at its meeting on 6/8/2004. Your project was approved by the Committee.

The Human Subjects Committee has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This approval does not replace any departmental or other approvals which may be required.

If the project has not been completed by 6/8/2005 you must request renewed approval for continuation of the project.

You are advised that any change in protocol in this project must be approved by resubmission of the project to the Committee for approval. Also, the principal investigator must promptly report, in writing, any unexpected problems causing risks to research subjects or others.

By copy of this memorandum, the chairman of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department; and should review protocols of such investigations as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Protection from Research Risks. The Assurance Number is IRB00000446.

cc: Ronald Mullis
HSC No: 2004-118
APPENDIX C: Instrumentation
Using the following scale, please check the rate in which you have experienced the following activities:

1 = Never
2 = Rarely
3 = Sometimes
4 = Often
5 = Very Often

1. Kissing a male with tongue contact
2. Manual manipulation of your clad breast by a male
3. Manual manipulation of your nude breast by a male
4. Oral contact with your female breast by a male
5. Manual manipulation of male genitalia
6. Manual manipulation of your genitalia by a male
7. Oral contact with your genitalia by a male
8. Oral contact with male genitalia
9. Heterosexual intercourse
10. Anal heterosexual intercourse
11. Kissing a female with tongue contact
12. Manual manipulation of your clad breast by a female
13. Manual manipulation of your nude breast by a female
14. Oral contact with your breast by a female
15. Manual manipulation of your
genitalia by a female

16. Oral contact with your genitalia by a female

17. Manual manipulation of another female’s clad breast

18. Manual manipulation of another female’s nude breast

19. Oral contact with another female’s breast

20. Manual manipulation of female genitalia

21. Oral contact with female genitalia
Miller-Fisk Sexual Knowledge Questionnaire (SKQ)

For each item, select the answer you think is correct and then place an X in the box in front of the option. [X]

1. The single most important factor in achieving pregnancy is:
   [ ] a. time of exposure in the cycle
   [ ] b. female's desire or wish to become pregnant
   [ ] c. frequency of intercourse
   [ ] d. female's overall state of health

2. Which of the following is the most dependable (effective) method of contraception or birth control:
   [ ] a. condom (male prophylactic)
   [ ] b. diaphragm plus jelly or cream
   [ ] c. rhythm
   [ ] d. pill

3. Following release from the ovary the human ovum (egg) is capable of being fertilized for:
   [ ] a. 6 to 12 hours
   [ ] b. 24 hours
   [ ] c. 48 hours
   [ ] d. 4 to 6 days

4 A good index of a female's relative fertility (ability to achieve pregnancy) is:
   [ ] a. her overall health
   [ ] b. the regularity of her periods
   [ ] c. the level of intensity of her sex drive
   [ ] d. her ability to achieve orgasm

5. Which of the following methods of contraception is most effective:
   [ ] a. condom (male prophylactic)
   [ ] b. rhythm
   [ ] c. diaphragm plus jelly or cream
   [ ] d. intrauterine device (loop or bow)

6. The normal female most often ovulates (gives off egg):
   [ ] a. 2 weeks before the onset of menstruation
   [ ] b. just prior to menstruation
   [ ] c. immediately following menstruation
   [ ] d. at unpredictable times throughout the cycle

7. Infertility (inability to achieve pregnancy) is:
   [ ] a. familiar or inherited
   [ ] b. a male problem in one-third of cases
   [ ] c. a female problem in 90% of the cases
   [ ] d. easily diagnosed after six months of marriage
8. Which of the following is the poorest or least dependable method of contraception:
   [ ] a. condom (male prophylactic)
   [ ] b. diaphragm
   [ ] c. post-intercourse douching
   [ ] d. rhythm

9. A normal human ovum (egg) is approximately the same size as:
   [ ] a. a pinhead
   [ ] b. a small pearl
   [ ] c. a dime
   [ ] d. none of the above

10. Fertilization (union of the sperm and egg) normally occurs in which of the following anatomical locations:
    [ ] a. the uterus (womb)
    [ ] b. the cervix (mouth of womb)
    [ ] c. the tube
    [ ] d. the vagina

11. Menopause is a time of:
    [ ] a. diminished sexual desire
    [ ] b. absolute infertility
    [ ] c. rapid aging
    [ ] d. altered reproductive and menstrual functioning

12. The rhythm method of contraception is:
    [ ] a. always effective
    [ ] b. avoidance of intercourse during unsafe (or fertile) times
    [ ] c. a technique of intercourse
    [ ] d. none of the above

13. Pregnancy would be impossible in early adolescence when menstruation has not yet even begun or is not at all regularly scheduled,
    [ ] a. true
    [ ] b. false

14. Menstrual blood is similar to body “poison” or toxin that must be eliminated in order for a woman to remain healthy,
    [ ] a. true
    [ ] b. false

15. A woman who begins to menstruate on the first Wednesday of every month is “as regular as a clock.”
    [ ] a. true
    [ ] b. false

16. In order to have a normal period there must be a moderate to heavy flow in terms of amount of blood and/or duration of flow,
    [ ] a. true
    [ ] b. false

17. The loss of one ovary through disease or surgery diminishes a woman’s fertility (ability to conceive) little, if at all.
18. Anatomical differences (i.e., size, shape, capacity, etc.) of the genital organs has a 
great bearing on sexual compatibility or satisfaction,  
[ ] a. true  
[ ] b. false  

19. Unplanned or undesired pregnancies have a greater likelihood of miscarrying than do 
planned pregnancies,  
[ ] a. true  
[ ] b. false  

20. Failure to have an orgasm on the part of the female eliminates or substantially reduces 
the likelihood of becoming pregnant,  
[ ] a. true  
[ ] b. false  

21. Withdrawal is an effective means of contraception (birth control),  
[ ] a. true  
[ ] b. false  

22. Birth control pills directly increase the sex drive (desire) in most women,  
[ ] a. true  
[ ] b. false  

23. Sperm retain their ability to fertilize (cause pregnancy) for one to two days following 
ejaculation (release),  
[ ] a. true  
[ ] b. false  

24. Most women are more fertile during one particular season of the year than another,  
[ ] a. true  
[ ] b. false
Rosenberg Self-Esteem Scale (RSE)

Please record the appropriate answer for each item, depending on whether you strongly agree, agree, disagree, or strongly disagree with it.

1 = Strongly agree
2 = Agree
3 = Disagree
4 = Strongly disagree

____ 1. On the whole, I am satisfied with myself.

____ 2. At times I think I am no good at all.

____ 3. I feel that I have a number of good qualities.

____ 4. I am able to do things as well as most other people.

____ 5. I feel I do not have much to be proud of.

____ 6. I certainly feel useless at times.

____ 7. I feel that I’m a person of worth.

____ 8. I wish I could have more respect for myself.

____ 9. All in all, I am inclined to think that I am a failure.

____ 10. I take a positive attitude toward myself.
Hendrick Sexual Attitude Scale (HSAS)

Using the following scale, please rate each item and record your response on the space next to that item.

1 = Strongly agree
2 = Moderately agree
3 = Neutral
4 = Moderately disagree
5 = Strongly disagree

1. I do not need to be committed to a person to have sex with him/her.
2. Casual sex is acceptable.
3. I would like to have sex with many partners.
4. One-night stands are sometimes very enjoyable.
5. It is okay to have ongoing sexual relationships with more than one person at a time.
6. It is okay to manipulate someone into having sex as long as no future promises are made.
7. Sex as a simple exchange of favors is okay if both people agree to it.
8. The best sex is with no strings attached.
9. Life would have fewer problems if people could have sex more freely.
10. It is possible to enjoy sex with a person and not like that person very much.
11. Sex is more fun with someone you don’t know.
12. It is all right to pressure someone into having sex.
13. Extensive premarital sexual experience is fine.
14. Extramarital affairs are all right as long as one’s partner doesn’t know about them.
15. Sex for its own sake is perfectly all right.
16. I would feel comfortable having intercourse with my partner in the presence of other people.
17. Prostitution is acceptable.
18. It is okay for sex to be just good physical release.
19. Sex without love is meaningless.
20. People should at least be friends before they have sex together.
21. In order for sex to be good, it must also be meaningful.
22. Birth control is part of responsible sexuality.
23. A woman should share the responsibility for birth control.
24. A man should share the responsibility for birth control.
25. Sex education is important for young people.
26. Using “sex toys” during lovemaking is acceptable.
27. Masturbation is all right.
28. Masturbating one’s partner during intercourse can increase the pleasure of sex.
29. Sex gets better as a relationship forms.
30. Sex is the closest form of communication between two people.
31. A sexual encounter between two people deeply in love is the ultimate human interaction.
32. Orgasm is the greatest experience in the world.
33. At its best, sex seems to be the merging of two souls.
34. Sex is a very important part of life.
35. Sex is usually an intensive, almost overwhelming experience.
36. During sexual intercourse, intense awareness of the partner is the best frame of mind.
37. Sex is fundamentally good.
38. Sex is best when you let yourself go and focus on your own pleasure.
39. Sex is primarily the taking of pleasure from another person.
40. The main purpose of sex is to enjoy oneself.
41. Sex is primarily physical.
42. Sex is primarily a bodily function, like eating.
43. Sex is mostly a game between males and female.
From the point of view of your most influential parent/guardian (the person you chose in question 78), use the following scale to rate each item and record your response on the space next to that item.

1 = Strongly agree  
2 = Moderately agree  
3 = Neutral  
4 = Moderately disagree  
5 = Strongly disagree

____  1. My parent/guardian believes that I do not need to be committed to a person to have sex with him/her.

____  2. My parent/guardian believes that casual sex is acceptable.

____  3. My parent/guardian would like for me to have sex with many partners.

____  4. My parent/guardian would agree that one-night stands are sometimes very enjoyable.

____  5. My parent/guardian believes that it is okay to have ongoing sexual relationships with more than one person at a time.

____  6. According to my parent/guardian, it is okay to manipulate someone into having sex as long as no future promises are made.

____  7. Sex as a simple exchange of favors is okay if both people agree to it.

____  8. My parent/guardian believes that the best sex is with no strings attached.

____  9. My parent/guardian believes that life would have fewer problems if people could have sex more freely.

____  10. According to my parent/guardian, it is possible to enjoy sex with a person and not like that person very much.

____  11. The statement, sex is more fun with someone you don’t know, is consistent with the beliefs of my parent/guardian.

____  12. According to my parent/guardian, it is all right to pressure someone into having sex.

____  13. My parent/guardian believes that extensive premarital sexual experience is fine.

____  14. My parent/guardian believes that extramarital affairs are all right as long as one’s partner doesn’t know about them.

____  15. The statement, sex for its own sake is perfectly all right, is consistent with the beliefs of my parent/guardian.
16. My parent/guardian would feel comfortable for me to have intercourse with my partner in the presence of other people.

17. My parent/guardian believes that prostitution is acceptable.

18. According to my parent/guardian, it is okay for sex to be just good physical release.

19. My parent/guardian believes sex without love is meaningless.

20. According to my parent/guardian, people should at least be friends before they have sex together.

21. My parent/guardian believes in order for sex to be good, it must also be meaningful.

22. According to my parent/guardian, birth control is part of responsible sexuality.

23. My parent/guardian believes a woman should share the responsibility for birth control.

24. My parent/guardian believes a man should share the responsibility for birth control.

25. The statement, sex education is important for young people, is consistent with the beliefs of my parent/guardian.

26. My parent/guardian believes that using “sex toys” during lovemaking is acceptable.

27. My parent/guardian would agree with the statement, masturbation is all right.

28. My parent/guardian believes that masturbating one’s partner during intercourse can increase the pleasure of sex.

29. According to my parent/guardian, sex gets better as a relationship forms.

30. According to my parent/guardian, sex is the closest form of communication between two people.

31. My parent/guardian believes a sexual encounter between two people deeply in love is the ultimate human interaction.

32. My parent/guardian believes that orgasm is the greatest experience in the world.

33. My parent/guardian would agree with the statement, at its best, sex seems to be the merging of two souls.

34. My parent/guardian believes sex is a very important part of life.

35. According to my parent/guardian, sex is usually an intensive, almost overwhelming experience.
36. My parent/guardian believes that during sexual intercourse, intense awareness of the partner is the best frame of mind.

37. The statement, *sex is fundamentally good*, is consistent with the beliefs of my parent/guardian.

38. My parent/guardian believes that sex is best when you let yourself go and focus on your own pleasure.

39. My parent/guardian believes that sex is primarily the taking of pleasure from another person.

40. According to my parent/guardian, the main purpose of sex is to enjoy oneself.

41. My parent/guardian believes that sex is primarily physical.

42. According to my parent/guardian, sex is primarily a bodily function, like eating.

43. The statement, *sex is mostly a game between males and female*, is consistent with the beliefs of my parent/guardian.
### Reckless Behavior Questionnaire

Please check the rate in which you have experienced the following activities in the past year:

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
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<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Driven an automobile greater than 20 MPH over the speed limit.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2.</td>
<td>Driven an automobile faster than 80 MPH</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3.</td>
<td>Driven an automobile while intoxicated</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4.</td>
<td>Raced another car while driving</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5.</td>
<td>Passed another car in a no-passing zone</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6.</td>
<td>Had sex with contraception</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7.</td>
<td>Had sex without contraception</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8.</td>
<td>Had sex with someone not known well</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9.</td>
<td>Smoked marijuana</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10.</td>
<td>Used illegal drugs (besides marijuana)</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>11.</td>
<td>Shoplifted</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>12.</td>
<td>Stolen item(s) worth less than $50</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>13.</td>
<td>Stolen item(s) worth more than $50</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>14.</td>
<td>Vandalized</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
Participant Demographic Data

Age: ____ years _____ months   Sex: _____Male _____Female

Which of the following comes closest to describing your race (check one):
_____ Caucasian or White   _____ African American or Black
_____ Hispanic or Latino   _____Native Hawaiian or other Pacific Islander
_____ American Indian or Alaska Native   _____ Other, please specify ____________________
_____ Asian

What is your current classification:
_____ Freshman   _____ Sophomore   _____ Junior
_____ Senior   _____ Graduate

Total Household Income (your parent’s income):
_____ $0 - $15,999   _____ $16,000 - $24,999   _____ $25,000 - $34,999
_____ $35,000 - $44,999   _____ $45,000 - $54,000   _____ $55,000 or above

Relationship Status (mark the one that pertains to your current situation):
_____Married      _____Divorced      _____Separated      _____Dating      _____Single not currently dating
If you circled Married or Dating, how long have you been in the current relationship? _____ Years _____ Months

Are you a member of a religious denomination? _____ Yes _____ No
If yes, to which religious denomination are you affiliated?
_____ Catholic      _____ Baptist      _____ Methodist
_____ Lutheran      _____ Presbyterian      _____ Pentecostal/Charismatic
_____ Episcopalian/Anglican      _____ Jewish      _____ Mormon/Latter Day Sts
_____ Churches of Christ      _____ Non-Denominational      Other, please specify _________

How important would you say religion is to you?
_____ very important      _____ somewhat important      _____ not important

Which family type best describes the family in which you grew-up:
_____ nuclear (biological parents and their children)      _____ step-family (with bio-mother)
_____ single parent household (mother headed)      _____ step-family (with bio-father)
_____ single parent household (father headed)      _____ other, please define _________

Which community size best describes the place in which you grew up:
_____ Metropolitan (pop. over 100,000)      _____ Small town (pop. 2,500 – 24,000)
_____ Urban (pop. 50,000 – 99,999)      _____ Rural/Farm (pop. Under 2,500)
_____ Suburban (pop. 25,000 – 49,000)
REFERENCES


Zuckerman, M., (1979). *Sensation seeking: beyond the optimal level of arousal*. Cambridge,
BIOGRAPHICAL SKETCH

Lucille H. Byno
Curriculum Vitae

Education

Ph.D. Florida State University, Marriage and Family Therapy, 2000 – Fall, 2005
Dissertation: Relationships between sexual behaviors, sexual knowledge, self-esteem, and sexual attitudes in college females
Advisors: Professor Ronald L. Mullis

Post Master’s Certificate, Valdosta State University, Marriage and Family Therapy, 1997 - 1999
Concentration: Couples Therapy and Parenting
Advisor: Professor Carmen Knudson-Martin

M.S. Valdosta State University, Sociology, 1996
Concentration: Family Sociology
Advisor: Professor John Curtis

B.S. East Tennessee State University, Psychology, 1982 - 1986

Publications


Research

Conducted qualitative research design and implementation with over 375 female subjects – Relationships between sexual behaviors, sexual knowledge, self-esteem, and sexual attitudes in college females; dissertation

Participated as part of a research team that is developing outcome measurement systems for Florida’s homelessness programs, 2004 – present, Florida State University, Dr. Thomas Cornille, Dr. Ann Mullis, Dr. Ronald Mullis
Contributed as a research team member examining effects of parent and teacher involvement on early literacy, 2004 – present, Florida State University, Dr. Thomas Cornille, Dr. Ann Mullis, Dr. Ronald Mullis

Assisted in data collection with elementary school children as part of a research team in conjunction with Tufts University, 2003.

Developed and implemented an eating disorder treatment group and research project, 2002, Florida State University, Dr. Donald R. Bardill

Participated as part of the research team initiated in conjunction with the Florida Legislature – Florida Marriage Preparation and Preservation Project, 2000-2003, Florida State University, Dr. Mary Hicks

Experienced (through coursework, individual research, and collaboration with colleagues) with quantitative research methodologies and statistical analysis. Proficient in the utilization of SPSS statistical program, and have used LISREL. Extensive use of survey and face-to-face interview research techniques, curriculum development, and some aspects of program evaluation.

Professional Experience

Instructor, Fall 2001 – present
College of Human Sciences, Florida State University
Courses: Family Relationships: A Life-Span Development Approach
   Foundations of Counseling
   Ecological Contexts: Family as an Ecosystem
   Individual and Life Span Development, Fall 2005
   Family & Child Issues in Public Policy, Fall 2005
Teaching assistant to Dr. Ronald L. Mullis
   Individual and Family Life Span Development, Spring 2004

Instructor, Fall 2005 – present
Department of History and Social Sciences, Tallahassee Community College
Courses: Introduction to Sociology

Registered Marriage & Family Therapist Intern, #IMT 507, September 2002
State of Florida, Department of Health

Therapist, Fall, 2003 – present
Killearn United Methodist Church, Tallahassee, FL
   - Provided marital and family therapy with individuals, couples, and families
   - Facilitated group therapy focusing on bereavement due to death
   - Facilitated group therapy focusing on divorce issues and recovery

AAMFT Supervisor Candidate, ID#84324, September 2001 – present
Center for Marriage & Family Therapy, Florida State University, Tallahassee, FL
   - Supervise therapists with their client caseloads

Therapist Intern, April, 2003-August, 2003
Center for Marriage & Family Therapy, Florida State University, Tallahassee, FL
- Provided marital and family therapy to individuals, couples, and families
- Supervised therapists with their client caseloads

**Parent Education Facilitator**, September 1996 - present
- Certified *Nurturing Parenting Program* Facilitator
- Certified Facilitator in *Strengthening Multi-Ethnic Families and Communities: A Violence Prevention Parent Training Program*

**Filial Play Therapy**, Spring 2002 – Fall 2002
Trained in conjunction with the School of Social Work, Florida State University

Prevent Child Abuse Georgia, formally the Georgia Council on Child Abuse
- Conducted community, regional, and state child abuse trainings
- Developed and maintained community based non-profit child abuse councils and prevention programs in a 28 county region
- Provided technical assistance, program evaluation, and support to child abuse prevention programs in a 28 county region

**Marriage and Family Therapy Intern**, Fall 1998 – 1999
The Renaissance Centre, Albany, Georgia
- Provided marital and family therapy with individuals, couples, and families

**Professional Presentations**


*Problem Solving and Interventions in Clinical Supervision.* Workshop at the 60th Annual Conference of the American Association for Marriage and Family Therapy, Long Beach, CA, 2003.

*The Thin Within: A Therapeutic Group Therapy Curriculum for Eating Disorders.* Research and Creativity Symposium, College of Human Sciences, Florida State University, 2002.

*The Thin Within: A Therapeutic Group Therapy Curriculum for Eating Disorders.* Poster Session on the 60th Annual Conference of the American Association for Marriage and Family Therapy, Cincinnati, OH, 2002

*Teaching and Learning Systemic Supervision: An Isomorphic Process; Ethics, Multiple Relationships, and Contextual Variables.* Workshop at the Florida American Association for Marriage and Family Therapy, Orlando Florida, 2002

*Racial Differences in Couples’ Interactional Patterns.* Poster session at the 59th Annual Conference of the American Association for Marriage and Family Therapy, Nashville, TN, 2001

Certifications and Licensures

Registered Marriage & Family Therapist Intern, State of Florida, Department of Health, Division of Medical Quality Assurance, #IMT507

Certified Family Life Educator (CFLE), National Council on Family Relations, 2002

Professional Memberships

American Association for Marriage and Family Therapy (AAMFT), 1996 - present
National Council on Family Relations (NCFR), 2000 - present
American Sociological Association (ASA), 2002 - present
Florida Association of Marriage and Family Therapy (FAMFT), 2000 - present
Marriage and Family Therapy Graduate Association, Florida State University (MFTGA), 2001 – present, Secretary, 2002 - 2003

Awards and Honors

Kappa Omicron Nu –Florida State University, Honor Society Initiate, 2002
Alpha Kappa Delta International Sociology Honor Society, Valdosta State University
Pi Gamma Mu Academic Honor Society, East Tennessee State University