

# **The Effects of a Human Sexuality Course on College Students' Sexual Attitudes and Perceived Course Outcomes**

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Portions of this research were presented at the 22 nd Annual Association for Psychological Science Convention in Boston, Massachusetts.

This research was partially supported by a Research Enhancement Grant from Coastal Carolina University.

## **Abstract**

Undergraduates enrolled in two separate sections of a human sexual behavior course ( $N = 85$ ) at a mid-sized public university in the southeastern U.S. completed pre- and post-measures of the Brief Sexual Attitudes Scale and the Trueblood Sexual Attitudes Questionnaire. Students reported greater tolerance for sexual practices of others and more liberal and positive sexual attitudes after completing the course. Students also reported positive outcomes related to the course with respect to increased sexual knowledge, enhanced sexual self image, and improved current/future romantic relationships. The positive benefits of a college human sexuality course are discussed.

## **Introduction**

While students enrolled in a human sexuality course would certainly be expected to show increased sexuality knowledge at the end of the course, educators and researchers are also finding encouraging,

positive changes in student attitudes regarding sexual behavior, relationships, prejudice, and tolerance for alternative lifestyles and practices. Human sexuality education has the potential to inform individuals and thereby potentially reduce social problems related to teenage pregnancy, sexually transmitted infections, and sexual abuse and harassment, as well as enhance interpersonal relationships, sexual health, and acceptance of variations in sexual beliefs and practices (Advocates for Youth, 2009; Dallager & Rosén, 1993). While there have been numerous studies aimed at investigating the influence of human sexuality education on individual attitudes and behaviors, the current study focuses on contemporary changes in attitudes related to tolerance and acceptance of variations in sexuality using relatively unfamiliar sexual attitudes measures. It is important to continually assess human sexuality education impacts due to constant changing cultural and generational differences in sexuality (Peterson & Hyde, 2010).

### **Past Studies on Student Attitude Changes in Human Sexuality Courses**

Researchers have found students who complete a human sexuality course show a variety of attitudinal changes. Students typically report a more liberal position concerning sexuality (Rees & Zimmerman, 1974), reporting feeling more sexually liberated, showing greater tolerance and acceptance of the differing sexual practices of others, and experiencing less sexual guilt upon completion of a human sexuality course (Gunderson & McCary, 1980). A study by Craig (1986) also found that students experienced decreased sexual anxiety after completing a human sexuality course, and this reduction of anxiety was maintained during a follow-up examination a semester later. Others have found reductions in the sexist double standard, and greater acceptance for sexual variance, masturbation, homosexuality, and use of birth control at the end of a human sexuality course (Godow & LaFave, 1979).

Dallager and Rosén (1993) investigated attitudes toward rape victims and rape myths in a human sexuality course. Findings showed that participants reported significantly less accepting attitudes of rape myths at the end of the course (Dallager & Rosén , 1993). Furthermore, Fisher (1986) found students who completed a human sexuality course were more likely to reject date rape attitudes and have more liberal attitudes toward women. Studies such as these demonstrate how sharing knowledge about human sexuality and rape have the capacity to discourage faulty beliefs about sexual abuse and create a less supportive environment for these negative attitudes about sexuality to cultivate.

Finken (2002) compared anti-gay, prejudicial attitudes of students enrolled in a human sexuality course and a child development course. Pre-test measures revealed no initial significant differences between the experimental and control group, as well as no significant differences between males or females enrolled in either class, in their homosexual attitudes. At the end of the semester, post-test measures indicated that students who had taken the human sexuality course reported less anti-gay beliefs than the control group. Finken also found that, in comparison to men, women reported less homonegativity and a greater decrease in anti-gay prejudice. Based on these findings, Finken (2002) demonstrates how a classroom environment and specific course content can promote social acceptance and tolerance of homosexuality and other sexual variations. Similarly, Rogers, McRee, and Arntz (2009) found students enrolled in a human sexuality course reported significantly lower homophobia scores upon completion of the course. An increase in sexual knowledge partially explained the reduction in negative homophobic attitudes, suggesting education plays an important role in combating harmful attitudes about homosexuality.

### **Changing Sexual Attitudes and the Need for Updated Assessments**

The sexual culture we live in, and the content of human sexuality courses, have changed from the 1970s when many of the earlier studies on assessment of human sexuality courses were conducted. To illustrate some of these shifts in attitudes, Wells and Twenge (2005) conducted a meta-analysis and found that people reported greater sexual activity, oral sex, and permissive attitudes, as well as reduced sexual guilt and age of first intercourse, from 1943 to 1999. More recently, Peterson and Hyde (2010) examined changes in gender differences in sexual attitudes from 1993 to 2007 in a meta-analytic review of 834 studies and several national data sets. Gender differences for permissiveness, casual sex, incidence of intercourse, and attitudes towards lesbians were reduced in more recent years, whereas gender differences for anal sex, attitudes towards sex while engaged, double standard endorsement, and attitudes towards homosexuals were more pronounced in recent years. However, there was a general

trend for males and females to report more similar sexual attitudes and behaviors in recent times compared to past investigations. Specifically related to pre- post-test changes in responses in human sexuality college courses, Cotten (2003) examined the differences in attitude change from students in the 1970s and the 1990s. Male responses were more conservative in the 1990s compared to the 1970s, and after completing the human sexuality class, male and female responses became more similar.

To explain the changing sexual attitudes and behaviors across time, there have been many sexual cultural shifts and technological advances. In the 1980s, AIDS was a new, mysterious sexual concern. As factual information about AIDS became more available, individual's attitudes about AIDS and people with AIDS became more tolerant over the time span from 1986 to 2000 (Bruce & Walker, 2001). Internet use has increased substantially in recent years, making sexual content and cybersex readily available to millions of people at the click of a mouse (Döring, 2009). Electronic mail and cellular phone technology has expanded to include the ability to send text messages and photos, which has led to increased "sexting," the practice of sending sexually explicit personal communication (Lipkins, Levy, & Jerabkova, 2010). Medical advances have expanded the variety of fertility and birth control options for women and men and have provided novel drug treatments for sexual dysfunction, including Viagra (Hock, 2010). The media presence of gay men and lesbians has increased in recent years and political struggles for gay rights and equality have dominated political debates (Avery et al., 2007; Calzo & Ward, 2009). Changes such as these are reflected temporally in the content of human sexuality textbooks and lecture/discussion topics of instructors of these courses. Based on these and many other changes in sexual culture, it is important to reassess human sexuality course outcomes periodically.

### **Current Study Hypotheses**

Upon completion of a semester long human sexual behavior course, undergraduate students were hypothesized to 1) show changes in attitudes which reflect greater tolerance for differences in sexual beliefs and practices, and 2) report positive outcomes, resulting from completion of the course, related to their personal sexual knowledge, sexual self image, and close relationships. In addition, 3) course performance was predicted to be positively correlated with increases in tolerance for differences in sexual beliefs and practices. Students who mastered course material and understood the psychology of sexual behavior were predicted to have the greatest changes in acceptance of sexual beliefs and practices of others.

While research similar to the current study has been conducted previously, as noted, replication across different locations, times, and using alternative measures of sexual attitudes are important in demonstrating the positive effects a human sexuality course can have on students. The current study introduces the use of sexual attitude measures (i.e., the Trueblood Sexual Attitudes Questionnaire; Hannon, Hall, Gonzalez, & Cacciapaglia, 1999; Trueblood, Hannon, & Hall, 1998) that have not been commonly used in previous investigations to ascertain changes in student sexual behavior attitudes. Research on this topic is important for the promotion of safe and healthy lifestyle decisions, and sexual tolerance among members of society.

### **Method**

#### **Participants**

Eighty five undergraduate college students enrolled in two separate sections of Human Sexual Behavior participated in this investigation. Students attended a mid-sized public university and the first author taught both class sections in different semesters. The majority of students enrolled in the course were women (87.1%), with an average age of 22.45 years ( $SD = 5.11$ , range = 19-60). Students were primarily of senior class rank (63.5%), but also included 30.6% juniors, 3.5% sophomores, and 2.4% post-bachelor. The majority of students enrolled in the human sexuality course were Psychology majors (60.5%), but the classes also included individuals majoring in Health Promotion (11.6%) and Sociology (11.6%). The remaining 16.3% included one or two majors from Art, Biology, Business, Communications, Criminal Justice, History, Marine Science, and Spanish. Most of the sample indicated that they were heterosexual (95.2%), while 2.4% identified themselves as homosexual, and

2.4% as bisexual. Race/ethnicity data were not collected, but the majority of students enrolled were Caucasian.

### The Human Sexual Behavior Course

The Human Sexual Behavior class is an elective offered in the psychology department and is taught annually. The course examined the psychological, social, behavioral, and cognitive aspects of human sexuality. Important course topics include history of sex research, sex and the media, sex research methodology, sexual anatomy, gender roles, sexuality development, love and relationships, attraction and sexual expression, birth control, pregnancy, sexual variations, psychological sexual disorders, sexual function problems, sexual health, sexually transmitted infections, sexual harassment, sexual abuse, erotica, pornography, and sex laws. The course objectives included understanding human sexuality from historical and multicultural perspectives, defining major theoretical perspectives that influence the scientific study of human sexuality, understanding human sexual anatomy and physiology, arousal and response, conception and contraception, sexually transmitted infections, variation in sexual life styles, relationships, and practices, and gaining a better understanding of the sexual self.

The semester long course met three times a week for 50 minutes each session. The course format was primarily lecture, but also included some class discussions about research, contemporary social issues, and personal experiences. Students were encouraged to stay active in the course by filling out notecards with course content questions each day the class met. The instructor would collect the notecards at the end of each class and answer selected questions via email with web links or in class the next day. Strong, Yarber, Sayad, and DeVault's (2008) *Human Sexuality: Diversity in Contemporary America* was the required textbook for the course. Students completed five multiple-choice and short answer essay exams, along with 10 written responses from *Taking Sides: Clashing Views in Human Sexuality* (Taverner, 2008), to determine course grade.

### Materials and Procedure

The current study was approved by the campus institutional review board and all appropriate ethical guidelines were followed in the conduct of this research.

Students completed two measures of sexual attitudes and behaviors on the first day of class. Students placed their responses in an envelope, sealed it, wrote their student ID number on it, and returned it to the instructor. The instructor kept the sealed envelopes in a locked cabinet in his office. The questionnaires used for data collection were the Brief Sexual Attitudes Scale (Hendrick, Hendrick, & Reich, 2006) and the Trueblood Sexual Attitudes Questionnaire (TSAQ; Hannon et al., 1999; Trueblood et al., 1998). Both instruments have documented reliability and validity.

The BSAS is a 23 item measure of sexual attitudes that contains four subscales: Permissiveness (example: "Casual sex is acceptable"), Birth Control (example: "Birth control is part of responsible sexuality"), Communion (example: "Sex is the closest form of communication between two people"), and Instrumentality (example: "The main purpose of sex is to enjoy oneself"). Statements were rated for agreement on a 5-point Likert scale (*1 = strongly disagree, 2 = moderately disagree, 3 = neutral, 4 = moderately agree, and 5 = strongly agree*). Higher scores on the subscales indicate more of the construct.

The TSAQ was developed to measure attitudes about personal sexual behaviors (40 questions, 8 items in each subscale) and sexual behaviors of others (40 questions, 8 items in each subscale). Subscales were developed based on content from typical human sexuality courses including Autoeroticism (e.g., masturbation, fantasy), Heterosexuality (e.g., heterosexual sexual behavior and attitudes), Homosexuality (e.g., homosexual and bisexual sexual behavior and attitudes), Sexual Variations (e.g., multiple relations, cross-dressing, sadism, masochism, voyeurism, domination), and Commercial Sex (e.g., erotica, pornography, prostitution). The TSAQ Self scale had participants rate the acceptability of sexual behavior to *oneself* and the TSAQ Other scale included identical content questions, but asked participants to focus on whether the topics were acceptable for *others* (i.e., it's acceptable for others to engage in these behaviors). All statements were rated for agreement on a 9-point Likert scale (*1 = I*

(*completely disagree* and *9 = I completely agree*). Higher scores on the subscales indicate more positive acceptance of the construct.

At the end of the semester, students completed the same two questionnaires, as well as a brief demographic form. Participants' age, sex, sexual orientation, major, and class rank were assessed. Course grade was based on multiple exams and response papers. Students also answered perceived course outcomes questions related to involvement in learning the course material (*1 = Not at all involved* and *10 = Extremely involved*), as well as sexual knowledge, sexual self image, acceptance of sexual variations, and impact on close relationships (*1 = Strongly disagree* and *10 = Strongly agree*), on a 10-point Likert scale. When students finished these post-measures, the instructor returned the envelopes with the pre-course questionnaire responses. The instructor then explained the intention of the current study, and students were asked for their permission to include their responses in the investigation by completing an informed consent form. The instructor told participants that submitting their responses was completely voluntary and would not impact course grade to reduce any perceived pressure to cooperate.

## Results

The two sections of Human Sexual Behavior scored similarly on their pre-score measures, so these two sections were combined for analyses. Pre- and post-scores were averaged (i.e., the total scores were divided by the total number of subscale items) and compared on the BSAS, the TSAQ Self, and the TSAQ Other measures. Given the relatively low male sample size, gender difference analyses were not conducted.

### Brief Sexual Attitudes Scale Results

Alphas on the BSAS ranged from .70 to .88 for overall scale and subscales, pre and post, demonstrating acceptable reliability. A repeated measures MANOVA was conducted on the BSAS scale to determine if there were significant increases from the beginning to the end of the semester on all subscales. Results revealed a significant multivariate effect, Wilks'  $\lambda = .81$ ,  $F(4, 81) = 4.87$ ,  $p < .001$ ,  $\eta^2 = .19$ . Univariate tests revealed a significant increase from the beginning to the end of the term on the Permissiveness subscale of the BSAS only,  $p < .001$ ,  $\eta^2 = .17$ . There were no significant changes in pre and post BSAS scores on the Birth Control subscale,  $p = .25$ ,  $\eta^2 = .02$ , the Communion subscale,  $p = .12$ ,  $\eta^2 = .03$ , or the Instrumentality subscale,  $p = .34$ ,  $\eta^2 = .01$ , although mean scores were higher at the end of the class compared to the beginning. See [Figure 1](#) for BSAS mean results.

### Trueblood Sexual Attitudes Questionnaire Results

Alphas on the TSAQ scale and subscales (self and other), pre and post, were all greater than .68, except for the Heterosexual Other subscale (alphas = .13 pre and .27 post). Given the low reliability scores for the Heterosexual Other subscale, this measure was not included in subsequent analyses.

A repeated measures MANOVA was conducted on the TSAQ Self scale to determine if there were significant increases from the beginning to the end of the semester on all Self subscales. Results revealed a significant multivariate effect, Wilks'  $\lambda = .64$ ,  $F(5, 80) = 8.98$ ,  $p < .001$ ,  $\eta^2 = .36$ . Univariate tests revealed all Self subscales showed significant increases from the beginning to the end of the semester: Masturbation,  $p < .001$ ,  $\eta^2 = .27$ ; Heterosexuality,  $p < .01$ ,  $\eta^2 = .08$ ; Homosexuality,  $p < .001$ ,  $\eta^2 = .17$ ; Sexual Variations,  $p = .05$ ,  $\eta^2 = .04$ ; and Commercial Sex,  $p < .001$ ,  $\eta^2 = .20$ . See [Figure 2](#) for TSAQ Self scale mean results.

A repeated measures MANOVA was conducted on the TSAQ Other scale to determine if there were significant increases from the beginning to the end of the semester on all Other subscales (minus the Heterosexuality subscale). Results revealed a significant multivariate effect, Wilks'  $\lambda = .82$ ,  $F(4, 81) = 4.48$ ,  $p < .01$ ,  $\eta^2 = .18$ . Univariate tests revealed all Other subscales showed significant increases from the beginning to the end of the semester except the Sexual Variations subscale: Masturbation,  $p = .02$ ,  $\eta^2 = .06$ ; Homosexuality,  $p < .01$ ,  $\eta^2 = .09$ ; and Commercial Sex,  $p < .001$ ,  $\eta^2 = .13$ . There was a

marginally significant increase in scores over the semester on the Sexual Variations subscale,  $p = .09$ ,  $\eta^2 = .03$ . See [Figure 3](#) for TSAQ Other scale mean results.

## Course Outcomes Results

Academic performance in the course was measured based on the percentage of earned points out of the total possible points available in the course. Course grade was positively correlated with the change in pre- and post-scores for the TSAQ Self Heterosexuality subscale only,  $r(83) = .25$ ,  $p = .02$ . Course grade was not related to attitude changes in any of the remaining BSAS or TSAQ Self or Other subscale areas ( $r_s$  ranged from 0 to .10, all  $p_s > .30$ ). Additionally, course grade was also correlated with pre- and post-scores on all measures and there were no relationships found ( $r_s$  ranged from -.14 to .11, all  $p_s > .20$ ).

Participants generally indicated they were involved in learning the course material,  $M = 8.05$ ,  $SD = 1.36$ , they believed the course improved their sexual knowledge,  $M = 8.67$ ,  $SD = 1.36$ , the course improved their sexual self image,  $M = 7.60$ ,  $SD = 2.04$ , the course increased their acceptance of sexual variations,  $M = 8.04$ ,  $SD = 2.07$ , and the course improved current (and/or will improve future) close relationships,  $M = 8.20$ ,  $SD = 1.71$ . Course grade did not correlate significantly with reported course outcomes (see [Table 1](#) ).

## Discussion

As predicted, students reported greater tolerance for sexual variations on subscales of the BSAS and TSAQ at the end of the course. The TSAQ Other subscale areas were rated higher than the Self subscale areas, which also demonstrates a greater acceptance of varied sexual behavior attitudes towards others overall. This pattern was consistent with findings from Hannon and colleagues (1999), who found Other subscale areas to be rated significantly higher than the equivalent Self subscale areas, indicating a more conservative sexual self. Students in our sample also reported high agreement with a statement about increasing their acceptance of sexual variation after completing the course. Students reported greater comfort with their sexuality as reported by changes in the BSAS, the TSAQ, and agreement with statements about improved sexual self image and close relationships at the end of the course. While students reported their sexual knowledge increased as a result of completing this course, course grade was not related to changes in BSAS or TSAQ scores. Greater comprehension of sexual knowledge was not necessary to lead to improved sexual tolerance. However, greater reported course involvement was related to high scores on self-reported increases in sexual knowledge, increases in sexual self image, acceptance of sexual variations, and improved current/future relationships. Students who believed they were involved in learning the course material by reading, coming to class, and completing assignments, reported more positive course outcomes. A perceived increase in sexual knowledge was also related to increases in sexual self image, acceptance of sexual variations, and improved current/future relationships, demonstrating the positive effects of learning about human sexuality.

The only subscale of the BSAS which showed significant change from the beginning to the end of the semester was Permissiveness. This finding is likely due to the expansion of students' awareness of various behaviors, and better understanding of common sexual techniques. A college-level human sexual behavior course is not intended to encourage sexual activity, but instead educate individuals and make them better aware and more comfortable with their own bodies, as well as encouraging greater acceptance of others. Permissiveness can actually be construed as acceptance of sexual variation and openness to varied sexual behavior and attitudes, which makes this result consistent with the current study predictions. While students showed increases on the Birth Control, Communion, and Instrumentality subscales of the BSAS, none of these changes were statistically significant. The Birth Control dimension was rated particularly high initially ( $M = 4.55$  out of 5), so there was little room for an increase on this dimension at the end of the semester. Birth control was considered a very important element of human sexuality at the beginning and end of the class. Communion and Instrumentality presented sex as being the ultimate expression in a close relationship or sex as being purely physical, respectively. While both of these areas were discussed in the course, neither was emphasized and neither explains the full range of diversity in human sexuality. To paraphrase a student comment from

class, sometimes sex is everything and other times sex is just sex. Therefore, it is not surprising these areas did not change from the beginning to the end of the course.

The Trueblood Sexual Attitude Questionnaire may have been the better measure for ascertaining student attitudes from a human sexuality course. The subscale areas of the TSAQ were more directly related to the typical topics covered in a human sexual behavior course ( Hannon et al., 1999; Trueblood et al., 1998). Consequently, almost all of the Self and Other subscale areas significantly increased from the beginning of the semester to the end of the semester in our sample. The Other Heterosexuality subscale responses were removed due to low reliability and Hannon et al. (1999) note that the Heterosexuality subscale of the TSAQ has weaker internal consistency than the other subscales and may need further refinement. The Other Sexual Variations subscale response increase was only marginally significant, which was perplexing, as we expected to find greater changes in this dimension. Some students may have interpreted the variations of cross-dressing, sadism, masochism, voyeurism, and domination as psychologically problematic if the practices interfered with everyday life. In these instances, students may not have been as accepting of these variations since they could have negative psychological and physical consequences if too extreme.

We acknowledge limitations of the present research. The human sexual behavior course is a popular offering at our institution, which may lead to a selection bias concern since course enrollment was not experimentally manipulated. Students choosing to take a human sexuality course may be more open-minded or willing to expand their awareness on such a topic, and therefore the generalizability of results might be somewhat limited. However, students in our classes scored relatively low on permissiveness and other sexual attitude measures concerning the self, indicating a more conservative view on human sexuality overall. In addition, there were a wide range of college majors in the course which makes the sample more representative of the college population than a psychology only sample. It should also be noted that our sample was comprised primarily of upperclassmen, females, Caucasians, and heterosexual students. While Hannon et al. (1999) found Caucasians reported more liberal scores than Hispanics and Asians on the TSAQ, our sample was primarily Caucasian so we could not conduct any further ethnic difference analyses. While small sample size did not allow us to compare male and female responses, mean responses were quite similar which is also consistent with Hannon et al. (1999) who found no sex differences in mean scores on the TSAQ. Future investigations of different ethnicities and sexual orientations may be useful.

Also, because this was a semester long course, it is difficult to pinpoint exactly what caused the sexual attitudinal changes of individuals. Was the change caused by the specific approach and manner of the instructor, the material presented in class, the readings, discussions with other students, or the combination of all of these elements? Further research could manipulate specific components and test for their effectiveness in changing sexual attitudes, tolerance for diversity, and course outcomes. Interesting work has considered how human sexuality peer facilitators in group discussion settings can have a great influence on the sexual attitudes of students ( Butler, Hartzell, & Sherwood-Puzzello, 2007). Finally, there is no telling if the attitudinal changes of students were more permanent, or short-lived, although some research suggests human sexuality courses may have long lasting effects. For example, King, Parisi, and O'Dwyer (1993) demonstrated how former students from a human sexuality course were more likely to talk to their children about sex compared to students not enrolled in a human sexuality course 2-3 years after the course. The lack of a follow-up study in the current research does not allow this factor to be taken into account, and future research could examine the lasting effects of a human sexual behavior course.

The current research adds a temporal update to the existing literature on sexual attitude change as a result of educational experience (i.e., Finken, 2002; Godow & LaFave, 1979; Gunderson & McCary, 1980; Rees & Zimmerman, 1974) and incorporates a relatively novel measure to use in assessing student sexual behavior attitudes (the TSAQ). Accurate information about human sexuality is important for making healthy lifestyle choices and developing a personal sense of self. Increasing tolerance is essential to combating sexism, homophobia, and other prejudices that exist in society and make individuals better prepared for dealing with diversity in their future personal and professional lives. Colleges should consider the impact of courses such as this in their curriculum.

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- Table 1**
- Correlation Matrix of Course Grade and Reported Course Outcomes*
- |  | Course Grade | Course Involvement | Increased sexual knowledge | Increased sexual self Image | Increased acceptance of sexual variation | Improved close relationships |
|--|--------------|--------------------|----------------------------|-----------------------------|--|------------------------------|
| Course grade   | 1            | -                  | -                          | -                           | -  | -                            |
| How involved were you in learning the course material.       | .20          | 1                  | -                          | -                           | -  | -                            |
| The course has increased by sexual knowledge.                | -.09         | .52**              | 1                          | -                           | -  | -                            |
| The course has improved my sexual self image.                | .05          | .37**              | .46**                      | 1                           | -  | -                            |
| The course has increased my acceptance of sexual variations. | -.02         | .29*               | .39**                      | .68**                       | 1  | -                            |

The course has improved my current (and/or will improve my future) close relationships.	.05	.36*	.44**	.62**	.51**	1
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N = 85.

\* $p < .01$ . \*\* $p < .001$ .

Figure 1 . Mean pre and post Brief Sexual Attitude Scale subscale responses.

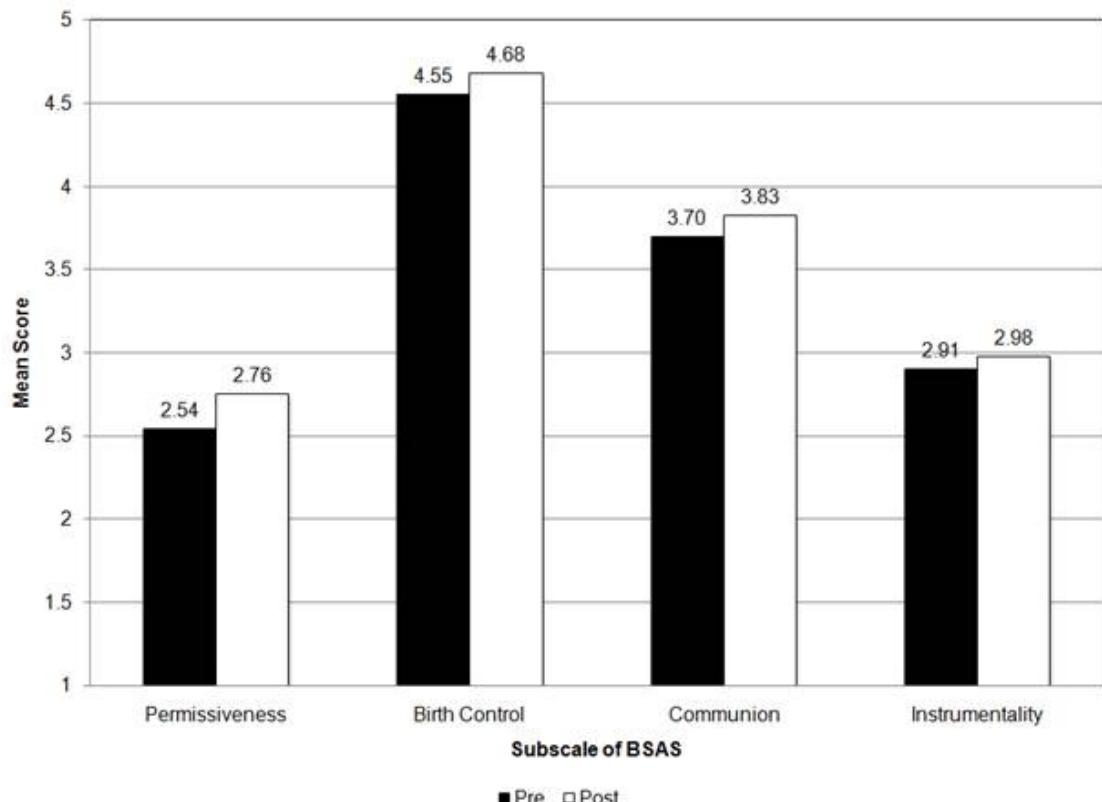
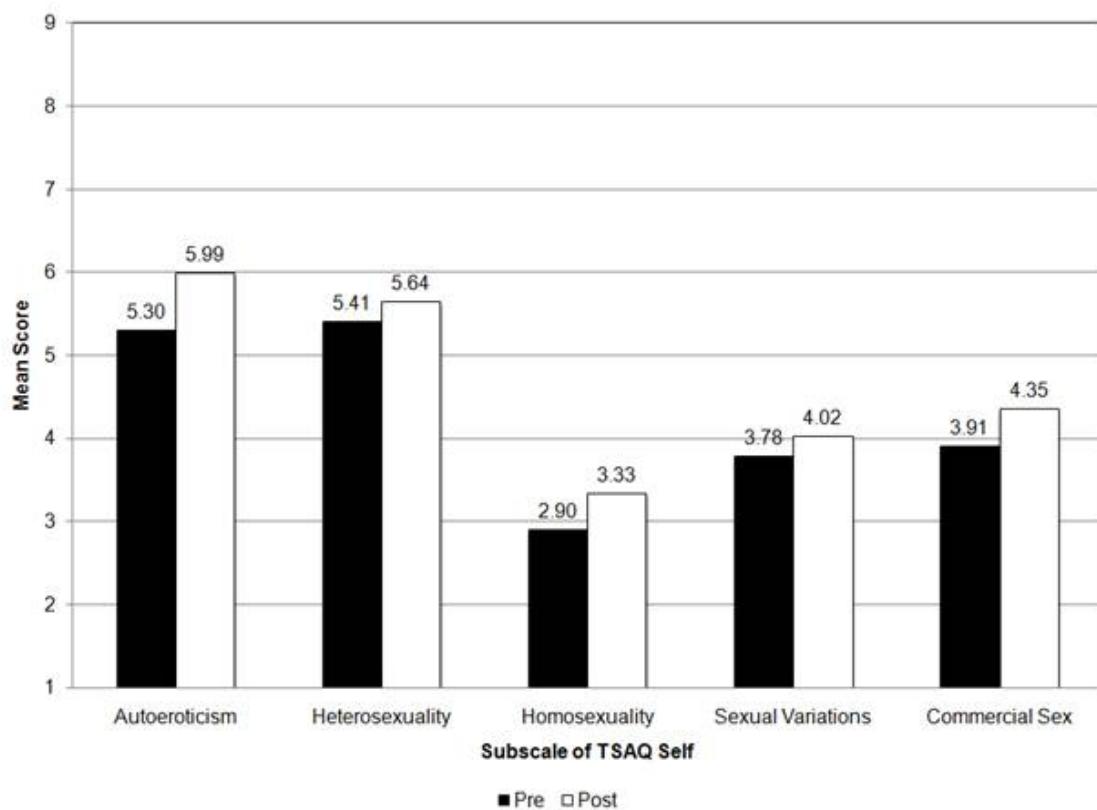


Figure 2 . Mean pre and post Trueblood Sexual Attitudes Questionnaire Self subscale responses.



*Figure 3 .* Mean pre and post Trueblood Sexual Attitudes Questionnaire Other subscale responses. Note the Heterosexuality subscale was not included due to low reliability.

