2012

The Association between Emotional Intelligence and Sexual Risk Behavior among Undergraduate College Students in the Greater Los Angeles

Deborah E. Ortiz
Scripps College

The Association between Emotional Intelligence and Sexual Risk Behavior Among
Undergraduate College Students in the Greater Los Angeles Area

A Thesis Presented by

Deborah Ortiz

To the Keck Science Department

Of Claremont McKenna, Pitzer, and Scripps Colleges

In partial fulfillment of

The degree of Bachelor of Arts

Senior Thesis in Human Biology

April 23, 2012

Acknowledgements

Table of Contents

Abstract

Sexual risk behaviors pose a major public health problem. However, sufficient research has not been done on the relationship between health risk behaviors and emotional intelligence. The purpose of this study was to examine the relationship between emotional intelligence, and sexual, smoking, and alcohol behavior among young adults. As well as explore the relationship between health risk behaviors. Emotional intelligence and sexual, alcohol, and smoking behavior of undergraduate college students from the greater Los Angeles area was assessed through an anonymous online questionnaire (n=80). There was no significant difference found in emotional intelligence between college students engaging in risk behaviors and college students not engaging in risk behaviors, for all risk behaviors assessed. However, there was a strong correlation found between college students engagement in different risk behaviors. These results indicate there is no significant relationship between emotional intelligence and health risk behaviors. Research about this relationship can be useful in designing interventions that reduce negative health outcome associated with health risk behaviors.

Keywords: emotional intelligence, sexual risk behavior, college students

Introduction

Background: The problem

In the United States 19 million new cases of sexually transmitted diseases (STD) occur each year. About half of all cases of sexually transmitted infections occur in adolescents and young adults (CDC, 2009). Chlamydia is the most commonly reported STD in the U.S. According to the Centers for Disease Control (CDC), 702,093 cases of chlamydia were reported in 2000. However, due to underreporting, it is estimated that there were actually 2.8 million new cases of chlamydia in 2000. Of these new cases, 75% occurred among people aged 15–24. The second most common bacterial infection, Gonorrhea, had 718,000 new cases reported with 60% of cases among people aged 15–24. Syphilis, which has decreased due the greater distribution of medication, had 15,449 new cases of infection reported, 22% of which were among 15–24 year olds. Genital herpes, which has been increasing over the past decade, was reported to have 4.2 million new cases of infection among youth. New cases of HPV infections were reported to be about 6.2 million with 74% among 15–24 year olds. There were 81,000 new cases of hepatitis B infection reported, and 15,000 of those cases were among 15 –24 year olds. In 2000 there were 900,000 people living with HIV in the U.S. Of the 40,000 new cases of HIV reported, half were among adolescents and young adults. Youth contribute significantly to the national incidence and prevalence rates of sexually transmitted diseases in the U.S. (Weinstock, Berman, & Cates Jr., 2004).

Outcomes of Sexual risk behaviors

In addition to the primary symptomatic consequences of contracting an STD, an untreated STD can result in long term consequences, such as pelvic inflammatory disease,

sterility, and cancer among men and women (CDC, 2009). In 10-15% of women with chlamydia, pelvic inflammatory disease (PID) develops. This can damage the fallopian tubes, uterus, and surrounding tissues, which can lead to sterility. Men and women with gonorrhea are more likely to contract another STD, thereby increasing their risk of sterility. Sexually transmitted diseases have been shown to affect newborns as well. Mothers who leave an STD untreated are more likely to pass the infection to their child, later resulting in health. For example, gonorrhea has been associated with blindness and joint infections in newborns (CDC, 2009).

Also, adolescents and young adults have high rates of unintended pregnancy, with women aged 20–24 having a slightly higher rate of unintended pregnancy than adolescents (Finer & Henshaw, 2006). Unintended pregnancies can lead to negative health and behavioral outcomes for both the infant and mother. Infants are more likely to be born with low birth weight, to have poor mental and physical health, to achieve lower educational outcomes, and to experience more behavioral problems (Logan et al., 2007). In a study by Kost and colleagues (1998), a positive relationship was present between the intention of pregnancy and health outcomes for the infant (low birth weight, premature delivery, well baby care, and breastfeeding). Data taken from the 1988 National Maternal and Infant Health Survey and 1988 National Survey of Family Growth show mothers who had unwanted and untimed pregnancies had a higher risk of having a child with one or more negative health outcomes and were less likely to be breastfeed (Kost, Landry, & Darroch, 1998).

However, the causality of these negative health outcomes cannot be conclusively determined. These effects on the newborn may be influenced by other factors such as the mental and physical health of the mother, prenatal care, socioeconomic status, and

race/ethnicity, especially since mothers who have an unintended pregnancy are more likely to have poorer mental and physical health, delay prenatal care, be involved in an abusive relationship, and have poorer relationships with their children (Logan et al., 2007; Barber, Axinn, & Thorton, 1999; D'Angelo et al., 2004). Studies looking at pregnancy intention and depression among recent mothers have found mothers who have had unintended pregnancies have higher levels of depression and anxiety, slap or spank their children more often as punishment, and spend less time with them (Najman et al., 1991; Barber, Axinn, & Thorton, 1999). Goto et al. study surveyed Japanese mothers, aged 35 to 49, six months after an unwanted pregnancy and found that they had lower mother to child attachment and that their children experienced greater negative feelings toward their mothers (Goto et. al, 2005). The negative effects associated with unintended pregnancies are seen across a range of ages and nationalities. As these studies show, the causality of the negative health outcomes on mothers is not conclusive. It is possible that mothers who have unintended pregnancies suffer from higher rates of depression and anxiety prior to their pregnancies rather than as a result of their pregnancy. And a mother's prior mental health may play a large role in the health outcomes of her children.

Association between risk behaviors

Sexually transmitted diseases and unintended pregnancies have been associated with sexual risk behaviors such as early age of intercourse, multiple sex partners, and having sex without the use of a condom (Buhi & Goodson, 2007). According to the Centers for Disease Control, in their risk behavior survey of high school students in grades 9–12, approximately 6% of adolescents have had sexual intercourse before the age of 13. Males, especially white males, were more likely to have sex at a younger age than females from any race or ethnicity.

About 14% adolescents have already engaged in sex with four or more people in their lives, with the highest number of sexual partners among 9th graders and black males. Of the 34.2% sexually active students, only 61.1% reported using a condom in their last sexual encounter. The highest use of a condom in their last sexual intercourse was among white males and 9th graders (CDC, 2009). Since the CDC only obtains responses from students who are currently enrolled in high school, the percentage of adolescents engaging in these sexual risk behaviors might be higher.

While sexual risk behaviors can contribute to sexually transmitted diseases and unintended pregnancies among adolescents and young adults, they also correlate with other risk behaviors. A longitudinal study of minority middle school students found adolescents who engaged in sex at an early age were more likely to have had multiple sex partners, been pregnant, to have forced someone to have sex or been forced to have sex, and had sex while using drugs (O'Donnell, O'Donnell, & Stueve, 2001). Another study found the number of multiple sex partners was correlated with other health risk behaviors among high school students. The study used risk behaviors from the National Youth Risk Survey to determine other risk behaviors among white and black males, and females: carrying a weapon, physical fighting, date violence perpetrator, date violence victim, rape victim, rape perpetrator, alcohol use, binge alcohol use, marijuana use, and cigarette use. White females were more likely to be a victim of date violence, a date rape victim, use alcohol, use marijuana, and use cigarettes if they had a greater number of sexual intercourse partners. White males were more likely to carry a weapon, be a rape victim, engage in physical fighting, use alcohol, use marijuana, and use cigarettes if they had a greater number of sexual intercourse partners. Similar to white females, black females with multiple sex partners were more likely be a

victim of date rape or violence victim, and engage in alcohol, marijuana, and cigarette use. The only difference between white and black females was black females were more likely to engage in physical fighting. Black males were similar to white males, except black males were more likely to engage in binge drinking. Among all levels of sexual partners, alcohol use was the most significant and consistent risk behavior associated with multiple sex partners and other risk behaviors. Overall, multiple sex partners were shown to be associated with engaging in other risk behaviors (Valois, Oeltmann, Waller, & Hussey, 1999).

Consistent with findings in the Valois et al. study, alcohol and drug use has been associated with an increase in sexual risk behavior (Staton et al., 1999). One study found a positive relationship between substance abuse and sexual risk behaviors among U.S. high school students. Students who were engaged in alcohol or cigarette use were more likely to have had sex, had multiple sex partners, and to not have used a condom during their last sexual intercourse. The greatest risk was among students who used marijuana, cocaine, or other illicit drugs. They were more likely to have had multiple sex partners and to have not used a condom during their last sexual intercourse (Lowry et. al, 1994). Santelli and colleagues found similar results among adolescents and young adults in the U.S. They found first intercourse and alcohol and drug use were related to multiple lifetime sex partners. Females who engaged in alcohol use had a 70% increase in the probability of multiple sex partners. Also, females who had sex before the age of 14 were twice as more likely to have had multiple sex partners than a female who had sex at age 16 or older. The same trend was found for males, except Hispanic and black males were more likely to have had multiple sex partners in the last three months. Interestingly, condom use was not related to multiple partners in lifetime or in the past three months (Santelli et. al, 1998). Furthermore, engaging

in sexual risk behavior and drug use in adolescence has been shown to increase the likelihood of continuing these behaviors into adulthood (Tapert, Aarons, Sedlar, & Brown, 2001).

Theoretical models

  Adolescent development. According to Somerville and colleagues (2010), adolescents' engagement in risky behaviors is due in part to an imbalance between underdeveloped structures and function in specific brain regions related to incentive based behavior. Somerville focuses on three regions of the brain that are important in their interaction with incentive behavior: amygdaloid complex, ventral striatum (NAcc), and prefrontal cortex. The amygdaloid complex, a cluster of nuclei located in the medial temporal lobe, is involved in processing emotional stimuli, such as emotional cues from other people and threats. The ventral striatum is a portion of the basal ganglia containing the nucleus accumbens (NAcc). The NAcc is involved in decision making about reward attainment, usually working in conjunction with the prefrontal cortex. The prefrontal cortex is involved in making rational and complex decisions and regulating emotions. In their review of the literature about these brain structures, Somerville and colleagues found the prefrontal cortex continues to develop throughout adolescence and well into adulthood. However, the amygdala and ventral striatum develop in childhood and exhibit little change in adolescence and adulthood. Also, white matter connecting neural pathways from the prefrontal cortex to the limbic region of the brain increase in size, density, and organization with age. These differences in adolescents, as compared with children and adults, were inferred to contribute to the adolescents' higher propensity to reward seeking behavior and lower ability for cognitive control (Somerville et al., 2010). Guroglu and colleagues (2009), in their study of brain structures and processes in relation to positive social interaction among adolescents,

found brain regions differed among adolescent and adults. Social interactions, such as fairness, trust, and reciprocity, important for maintaining relationships, were found to develop through adulthood. The medial prefrontal cortex (MPFC), anterior cingulate cortex (ACC), temporal parietal junction (TPJ), and the insula were found to undergo changes through out childhood and adolescence, contributing to an underdeveloped ability to consider other individuals intentions and to integrate perspectives beyond the self (Guroglu, Bos, & Crone, 2009).

Emotional intelligence. These studies show adolescents' engagement in risky behaviors as part of an underdeveloped ability to make social decisions. Emotional intelligence, defined as "a type of social intelligence that involves the ability to monitor one's own and other's emotion, to discriminate among them, and to use the information to guide one's own thinking and actions", is one approach for considering risky behavior among adolescents and young adults (Mayer & Salovey, 1993). This approach considers emotions as integral part of making everyday decisions, incorporating the basis of the neurobiological model proposed by Somerville and colleagues (Somerville et al., 2010). There are two basic models of emotional intelligence: the mental ability model and a mixed model. In the mixed model, mental and emotional abilities are combined with personality traits, such as optimism, motivation, and mood (Mayer & Salovey, 1997; Mayer & Salovey, 2000). In the mental ability model emotional intelligence is described as "the ability to perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge and to reflectively regulate emotions so as to promote emotional and intellectual growth" (Mayer & Salovey, 1997). Unlike the mixed model, emotional abilities are seen as more closely related to cognitive processes (Brackett, Mayer, & Warner 2003). Therefore, a

mental ability model will be used in this study to gain a better understanding of risk behaviors among adolescents.

Most research on emotional intelligence has focused on its importance in various domains of success and interpersonal relationships (Charbonnay & Nicol, 2001; Austin, Saklofske, & Egan, 2005). However, some studies have started to look at its relationship to health. In a couple of studies, high emotional intelligence was associated with better health, while lower emotional intelligence was associated with lack of impulse control and greater personality disorders (Matthews et al., 2002; Schutte et. al, 2006). Even less research has been done on the association between emotional intelligence and health risk behaviors. One study examining the relationship between emotional intelligence and the factors associated with smoking risk behavior in adolescents found emotional intelligence acted as buffer against smoking risk factors (Trinidad & Johnson, 2004).

Statement of purpose

Since research on the association of emotional intelligence to health risk behaviors in adolescents and young adults is limited, this study attempts to expand on previous literature. My study will focus on college-aged students, a population at high risk. College students are able to act without the supervision of parents and have greater access to substances that induce them to participate in risky behaviors. It is my hypothesis that college students with lower emotional intelligence will engage in greater sexual risk behaviors and that these same students will engage in other risk behaviors (e.g. smoking and drinking). The knowledge from this study will be helpful in improving the interventions used for reducing negative health outcomes associated with these risk behaviors.

Methods

Sampling

The hypothesis was tested using multiple samples of undergraduate college students from The Claremont Colleges and nearby colleges in the greater Los Angeles area. Participants were recruited by various methods. Postings of the study were made through Facebook, and emails were sent to students of various organizations on campus at The Claremont Colleges. Psychology professors at The Claremont Colleges were contacted about possible extra credit for students who participated. Also, flyers of the study, with information about the study and the link to the survey, were posted on the various campuses of The Claremont Colleges and at colleges and universities in the greater Los Angeles area (e.g. Santa Monica College, USC, UCLA, Loyola Marymount, Cal Sate LA, Cal Poly Pomona). Students were encouraged to participate through a possible reward. Participants had a chance of winning one of five $20 Amazon gift cards if they entered their name in the raffle when they participated.

Prior to participation, students were informed of the sensitive information on the survey and anonymity of their participation. The survey consisted of questions about sexual, smoking, and drinking behavior as well as questions measuring emotional intelligence. Participants answered an online questionnaire created on SurveyMonkey. The questionnaire was available for a period of two weeks and was designed to be completed in 30 minutes. Participation was voluntary. Of the 102 participants to access the survey online, only 81 participants completed the full questionnaire.

The questionnaire used to measure emotional intelligence was only accessible through the Multi-Health Systems website. This created two problems 1) potential

compromise of the participants' anonymity and 2) confusion over passwords to gain access to the site. To resolve these problems the emotional intelligence questions on the Multi-Health Systems website were added to the behavioral questionnaire on SurveyMonkey. The answers from the emotional intelligence questions were reinserted by the researcher into the MSCEIT available online. When analyzing the data, error from reinserting data was taken into account.

Measures

Emotional intelligence: The Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT; Mayer-Caruso, 1997) was used to measure emotional Intelligence in undergraduate college students. The updated version of the MSCEIT 2.0V was used in the study because of its shorter length. The MSCEIT consists of 141 items divided into four branches with a total of eight tasks. However, its validity and reliability remain similar to the MSCEIT Version 1.1. The MSCEIT 2.0V has a full reliability of $r=0.86$, and a branch score reliability of $r=0.74$ to 0.89. The reliability is consistently high among area, branch, and task scores. The MSCEIT subtasks scores are not as reliable as the branch, area, and total scores (Mayer, Salovey, & Caruso, 2002, p. 29 –37).

The MSCEIT is a measurement consisting of an individual's ability to perceive, assimilate, emotionally understand, and regulate their emotions. The validity of MSCEIT 2.0V is not exactly known because it is a new test. Studies that have looked at the validity of MSCEIT 2.0V have not been published. However, the MSCEIT 2.0V was found to highly correlate with the MSCEIT 1.1V ($r= 0.96$). Therefore, MSCEIT 2.0V is considered to have a similar validity as MSCEIT 1.1V (Mayer, Salovey, & Caruso, 2002, p. 29 –37).

The perceiving emotion branch measures the degree to which respondents identify emotion in themselves and others. Respondents are asked to complete the faces and pictures tasks. Each of these subtests presents the respondents with a visual (e.g., a picture of a person with a specific facial expression or a landscape or design) and is asked to identify the specific emotion that corresponds to each visual. Each response is rated on 5-point Likert-type scale, depending on the emotions described. For example, in one of the questions, a man is shown with an expression on his face, and respondents are asked to judge how much each feeling is expressed on the man's face. The response ranges from, "Happiness" (1) to "Extreme Happiness" (5).

The facilitating emotion branch measures the degree to which respondents can use their emotions to improve thinking. Respondents are asked to complete sensation and facilitation tasks. These subtests consist of asking respondents how mood would impact their thinking in a situation (e.g. what mood(s) might be helpful to feel when meeting in-laws for the very first time?). Responses were rated on a 5-point Likert-type scale, ranging from "Not Useful" (1) to "Useful" (5).

The understanding emotions branch measures the degree to which respondents understand the emotional meanings, transitions, and situations. Respondents are asked to complete the blends and changes tasks. These subtests tests knowledge on how emotions change over time, and emotional vocabulary definitions. Respondents are asked to asses the emotion a character in a situation, as described in the test, would feel. Emotions were listed in a multiple-choice form. For example, "Marjorie felt more and more ashamed, and began to feel worthless. She then felt____" and the following possible answers were given: overwhelmed, depresses, ashamed, self-conscious, and jittery.

The emotion management branch measures how well respondents are able to manage emotions in their lives and in the lives of others. Respondents are asked to complete the emotion management and emotional relations tasks. They are asked to indicate the effectiveness of various situations to internal or external problems. A hypothetical situation is given, and participants are asked to respond to an action, based on a 5-point Likert-type scale, ranging from "Very Ineffective" (1) to "Very Effective" (5). For example, "Mara woke up feeling pretty well. She had slept well. Felt well rested, and had no particular cares or concerns. How well would each action help her preserve her mood?"

Due to time constraints, every branch except the Emotion Management was excluded. A general scoring method was used to calculate the emotional management branch and subtest scores. General scoring on overall, branch, and task scores is correlated to expert scoring, and ranges from r=0.93 to 0.98 (Mayer et. al, 2002). No overall emotional intelligence score was calculated because the items on the three branches (perceiving, facilitating, and understanding) were left unanswered. The branch score was calculated by averaging the task scores pertaining to the branch. The item scores were assigned based on a normative sample in the U.S. (N=5,000), meaning participants answers were compared to other respondents' answers within the U.S. The item scores ranged from 0 to 1.0. Task scores were calculated as the mean of the item scores within the task, and then rescaled as a deviation from the mean of the normative sample (mean=100).

Sexual risk behavior: Sexual risk behavior questions were taken from the Youth Risk Survey used by the Centers for Disease Control. The questions were composed of five multiple-choice questions pertaining to their sexual initiation and practices: 1) How old were you the first time you consensual sexual intercourse? 2) During your life, with how many

people have you had sexual intercourse? 3) During the past three months, with how many people have you had sexual intercourse? 4) The last time you had sexual intercourse, did you or your partner use a condom? 5) The last time you had sexual intercourse, what one method did you or your partner use to prevent pregnancy?

Tobacco use: Items of the college survey from the China Seven Cities Study (CSCS) were used to assess tobacco and alcohol use (Trinidad & Johnson, 2004). Tobacco use was assessed with three items: 1) Have you ever tired cigarette smoking, even a few puffs? 2) How old were you when you smoked a whole cigarette for the first time? 3) During the past 30 days, on the days you smoked, how many cigarettes did you smoke per day?

Alcohol use: Alcohol use was assessed with 3 items: 1) How old were you when you first started drinking regularly (at least one full drink per month for 3 or more months in a row)? 2) Have you ever had more than one drink of alcohol per month for 3 consecutive months? 3) During the past 30 days, on how many days did you have at least one drink of alcohol?

Demographic variables: Demographic variables such as age, gender, income level, and type of college were collected from all students. Ethnicity variables were collected (e.g. White, African American, Latino, etc.) as well. College type was described as private, state/public, and community.

Raffle information: Participants were able to provide their name and contact information to enter the raffle. This information was not used to connect participants with their responses on the survey. Upon completion of the study, participants who were chosen in the raffle were notified via email, and asked to pick up their reward at a convenient time and place, both for the researcher and the participant.

Statistical analysis

All statistical analyses were performed using SPSS. Nonparametric tests were used to analyze the significance between sexual, alcohol, and smoking behaviors to emotional intelligence. Correlation analysis was used to assess the degree of correlation between risk behavior variables. Also, a comparative risk index was made of the different risk factors, and analyzed for its association with emotional intelligence. Each risk mean was normalized to the same scale to contribute equally to the risk score.

Results

Descriptive statistics

The sample population was between 17–24 years and 81.3 % were females. The ethnic distribution was: 31.3% White, 5.0%Asian, 2.5% Black, 47.5% Hispanic, 5.0% Other, and 8.8% Multiracial (Asian, Black, Multiracial and Other students were included in the Other category because of the small number in our sample). College type distribution was: 90% private colleges and 10% community colleges (community college students and private college students were inlcuded in one large group because of the small smaple size of community college students). Income was omitted because of the abiguous responses on the survey.

Mayer Salovey Caruso Emotional Intelligence Test

Omitting the students who did not answer more than 10% of the task questions for the emotional management branch, the mean branch score was 0.39 (SD=0.71). The mean score for the emotional management task was 0.39 (SD=0.07) and the mean score for the emotional relations task was 0.39 (SD=0.09). Since the two tasks of the Emotional Management Branch were not found to be correlated, each variable was analyzed separately for each task score.

Gender and ethnic differences

Mean score on the MSCEIT was not significantly higher for females than for males (0.387 vs. 0.390, p=0.956). Given the small number of males in our sample gender differences were not examined for a relationship between risk behaviors and emotional intelligence. A comparison of mean EI task scores revealed there was no significant difference between White, Hispanic, and Other college students, EID: X^2= 0.028, df=2, p=0.986; EIH: X^2=1.111, df=2, p=0.574 (Fig. 1).
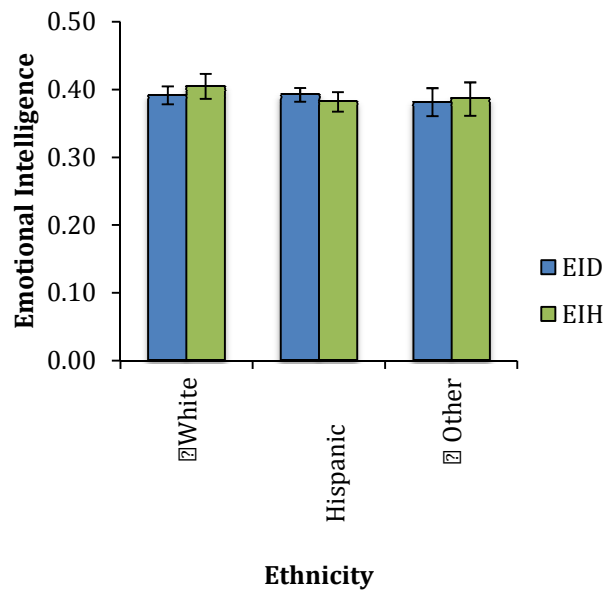

Figure 1. Mean task scores for the Emotional Management Branch for college students who identified as White, Hispanic, and Other (mean ± SE, n=80). There was no significant difference found in emotional intelligence between White, Hispanic, and Other college students.

Sexual risk behavior

Of all the college students sampled, 33.8% had never had sex in their life, 58.8% had sex at age 16 or 17, and 7.5% had sex at age 14 or 15; 33.8% had never had a single sexual partner, 45% had between 1 –3 sexual partners in their life, and 21.3% had between 4 –6

sexual partners in their lifetime; 43.8% had never had sex or had not had a sexual partner in the last three months, 51.2% only had 1 sexual partner in the last three moths, and 5% had 2 or 3 sexual partners in the last three months; 35% had never had sex, 35% used a condom the last time they had sexual intercourse, and 30% did not use a condom the last time they had sexual intercourse; and 33.8% have never had sex, 10% did not use any birth control or used withdrawal as their primary form of birth control, and 56.3 % used some form of birth control (birth control pills, condoms, Depo-provera, some other, and multiple).

However, no significant difference was found between level of risk in sexual behavior and emotional intelligence for any of the variables measuring sexual risk behavior (Fig. 2–6). There was no significant difference in emotional intelligence between college students who never had sex, had sex at the age of 14 or 15, and had sex at the age of 16 or 17, EID:X^2= 1.59, df=2, p=0.452; EIH: X^2=3.13, df=2, p=0.209 (Fig. 2). There was no significant difference found in emotional intelligence between college students who have never had sex, had between 1–3 lifetime sexual partners, and had between 4–6 lifetime sexual partners, EID: X^2= 0.71, df=2, p=0.70; EIH: X^2=1.20, df=2, p=0.549 (Fig. 3). There was no significant difference in emotional intelligence between students who have never had sex, had 1 sexual partner in the last three months, and had 2–3 sexual partners in the last 3 months, EID: X^2= 1.34, df=2, p=0.51; EIH: X^2=0.81, df=2, p=0.668 (Fig. 4). There was no significant difference in emotional intelligence between college students who have never had sex, did not use a condom during their last sexual intercourse, and did use a condom during their last sexual intercourse, EID: X^2= 0.034, df=2, p=0.983; EIH: X^2=1.339, df=2, p=0.512 (Fig. 5). There was no significant difference in emotional intelligence between college

students who have never had sex, who did use contraceptives, and who did not

contraceptives, EID: X^2= 1.205, df=2, p=0.548; EIH: X^2=3.164, df=2, p=0.206 (Fig. 6).
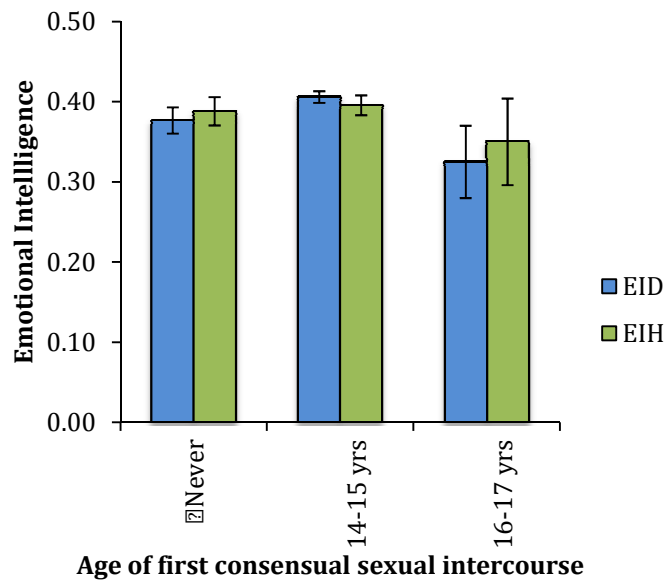

Figure 2. Mean task scores for the Emotional Management Branch for college students answering sexual behavior question 1: "How old were you the first time you had consensual sex?"(mean ± SE, n=80).
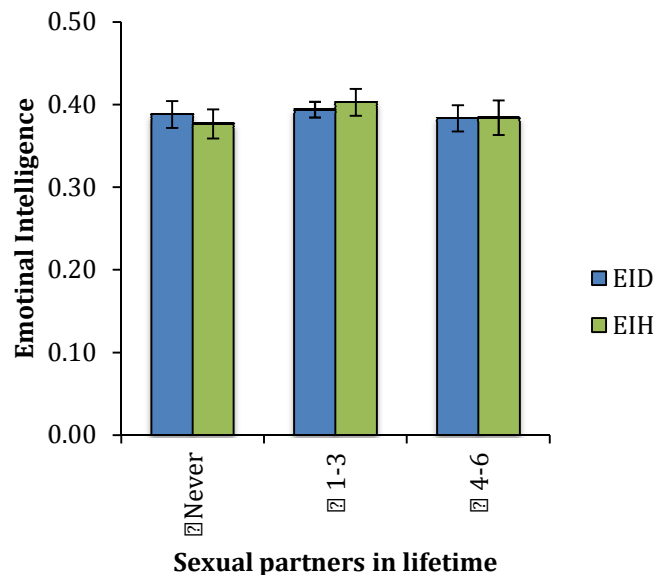

Figure 3. Mean task scores for the Emotional Management Branch for college students answering sexual risk behavior 2: "During your life, with how many people have you had sexual intercourse?" (mean ± SE, n=80).
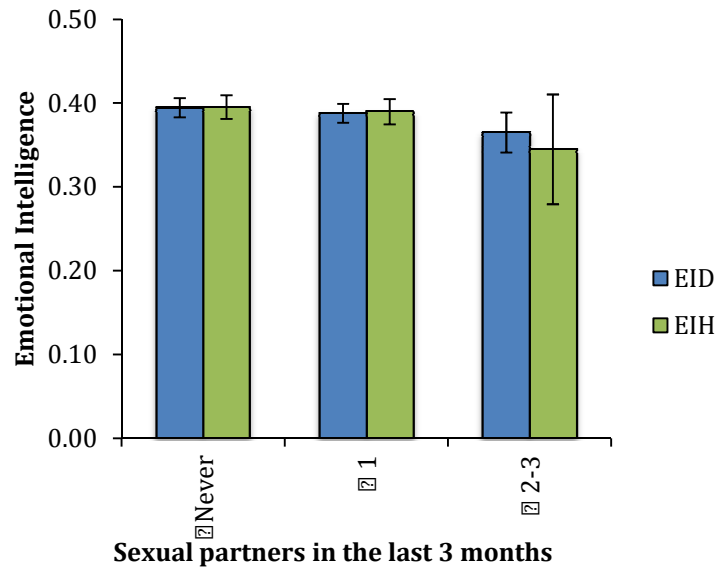
Figure 4. Mean task scores for the Emotional Management Branch for college students answering sexual risk behavior question 3: During the past three months, with how many people have you had sexual intercourse?" (mean ± SE, n=80).

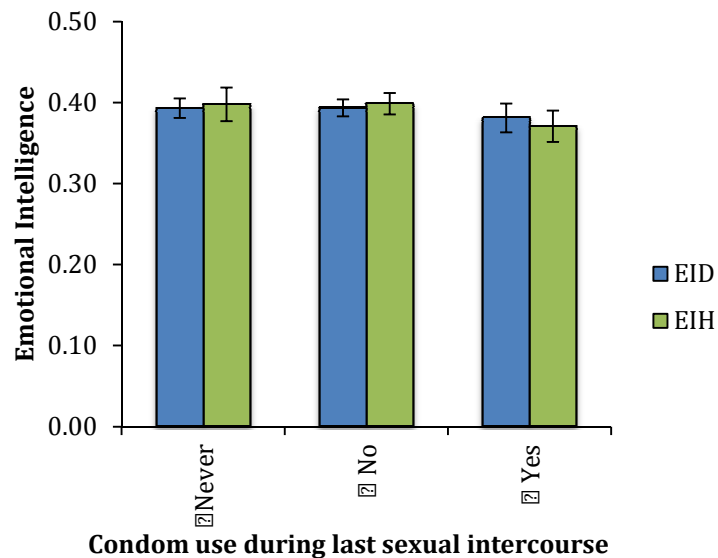**Figure 5.** Mean task score for the Emotional Management Branch for college students answering sexual risk behavior question 4: "The last time you had sexual intercourse, did you or your partner use a condom?" (mean ± SE, n=80).
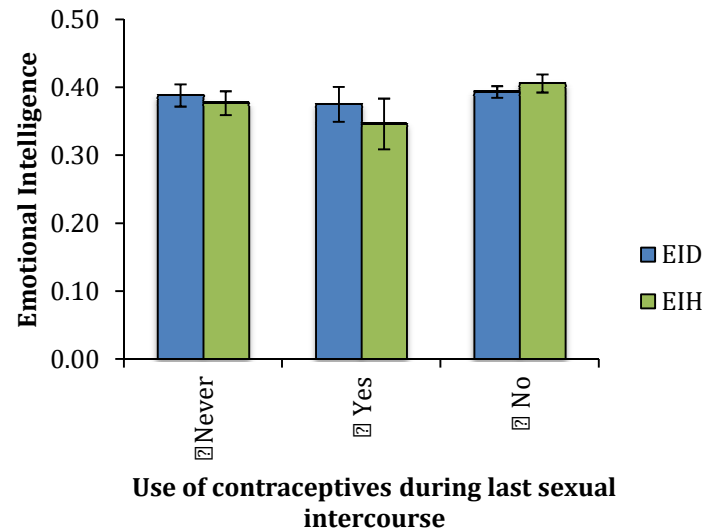
Figure 6. Mean task scores for the Emotional Management Branch for college students answering sexual risk behavior question 5: "The last time you had sexual intercourse, what one method did you or your partner use to prevent pregnancy" (mean ± SE, n=80).

Tobacco use

Of all the students sampled, 57.5% had never smoked and 42.5% had smoked; 71.3% had never smoked, 20% started smoking between the ages of 8–16, and 8.8% started smoking between the ages of 17 –22; and 81.3% had never smoked, 18.8% had smoked between 1–5 cigarettes in the past 30 days.

Among all the variables in the tobacco use questionnaire no significant difference was found between emotional intelligence and the level of smoking risk behavior (Fig. 7–9). There was no significant difference in emotional intelligence between college students who never smoked and who have smoked, EID: X^2= 3.10, df=1, p=0.078; EIH: X^2=0.003, df=2, p=0.957 (Fig. 7). There was no significant difference found in emotional intelligence between college students who never smoked, who started smoking between the ages of 8 – 16, and who started smoking between the ages of 17–22, EID: X^2= 2.390, df=1, p=0.303; EIH: X^2=0.217, df=2, p=0.897 (Fig. 8). There was no significant difference found in emotional intelligence between college students who did not smoke in the past 30 days, and

who smoked 1–5 cigarettes in the past 30 days, EID: $X^2 = 0.705$, df=1, p=0.401; EIH:

$X^2 = 0.058$, df=1, p=0.810 (Fig. 9)
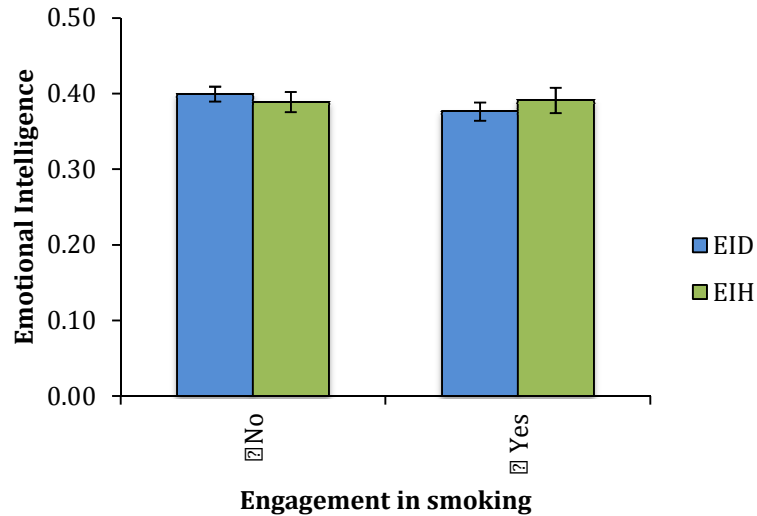

Figure 7. Mean task scores for the Emotional Management Branch for college student answering smoking behavior question 1: "Have you ever smoked?" (mean± SE; n=80).
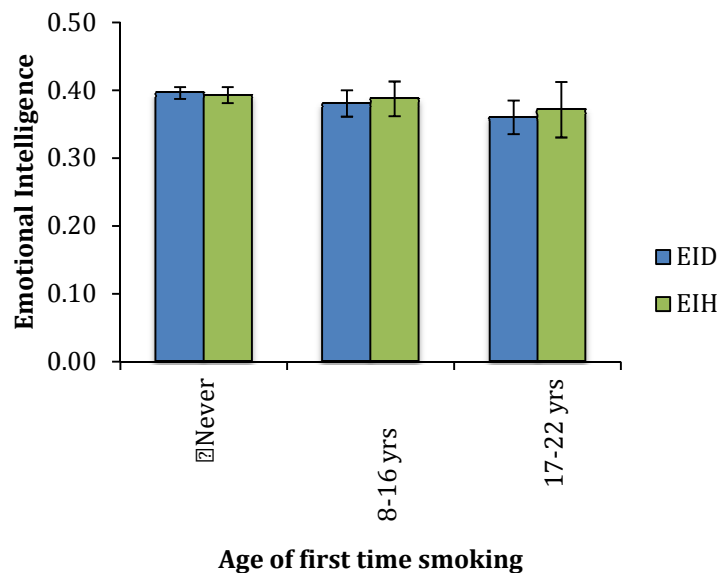

Figure 11. Mean task scores for the Emotional Management Branch for college students answering smoking behavior question 2: "How old were you when you smoked a cigarette for the first time?" (mean ± SE, n=80).
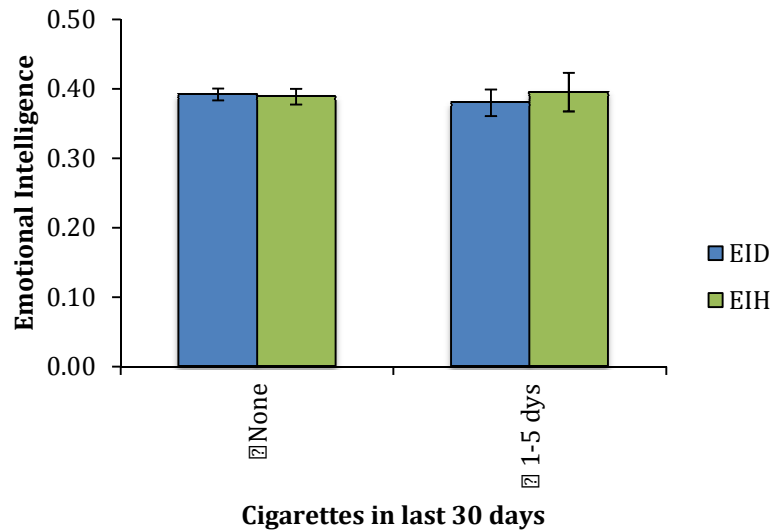
Figure 12. Mean task scores for the Emotional Management Branch for college students answering smoking behavior question 3: "During the past 30 days, on the days you smoked, how many cigarettes did you smoke per day?" (mean ± SE, n=80).

Alcohol Use

Of all the students sampled, 18.8% have never had alcohol, 66.3% started drinking regularly between the ages of 7–16, and 15% started drinking regularly at between the ages of 17–23; 27.5% did not consume more than one drink of alcohol per month for 3 consecutive months, and 72.5% did; and 22.5% did not have any drinks during the last 30 days, 65% had at least one drink in 1–9 days, and 12.5% had at least one drink between 10–30 days.

There was no significant difference was found between level of risk in alcohol behavior and emotional intelligence for any of the variables measuring sexual risk behavior (Fig. 10–12). There was no significant difference found in emotional intelligence between college students who never engaged in alcohol drinking, who engaged in alcohol drinking between the ages of 7–16, and engaged in alcohol drinking between the ages of 17–23, EID: X^2= 3.59, df=2, p=0.166; EIH: X^2=0.024, df=2, p=0.988 (Fig. 10). There was no significant difference in emotional intelligence between college students who did not consume at least

one drink a month for three consecutive months and those who did, EID: X^2= 0.002, df=1, p=0.966; EIH: X^2=2.281, df=1, p=0.131 (Fig. 11). There was no significant difference in emotional intelligence between college students who did not consume alcohol in the past 30 days, consumed alcohol between 1–9 days of the month, and consumed alcohol between 10–30 days of the month, EID: X^2= 1.305, df=2, p=0.521; EIH: X^2=0.074, df=2, p=0.964 (Fig. 12).

Figure 10. Mean task scores for the Emotional Management Branch for college students answering alcohol behavior question 1: "How old were you the first time you started drinking regularly?" (mean ± SE; n=80).

Figure 11. Mean task scores for the Emotional Management Branch for college student answering alcohol behavior question 2: "Have you ever had more than one drink of alcohol per month for 3 consecutive months?" (mean ± SE, n=80).
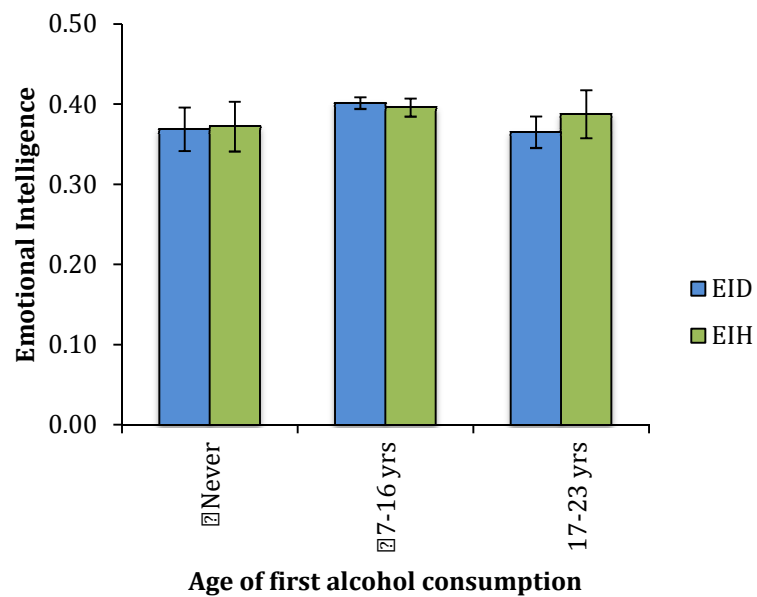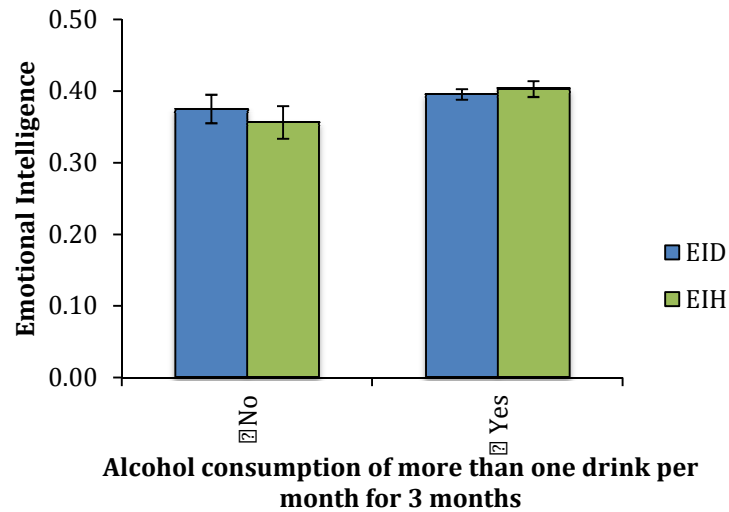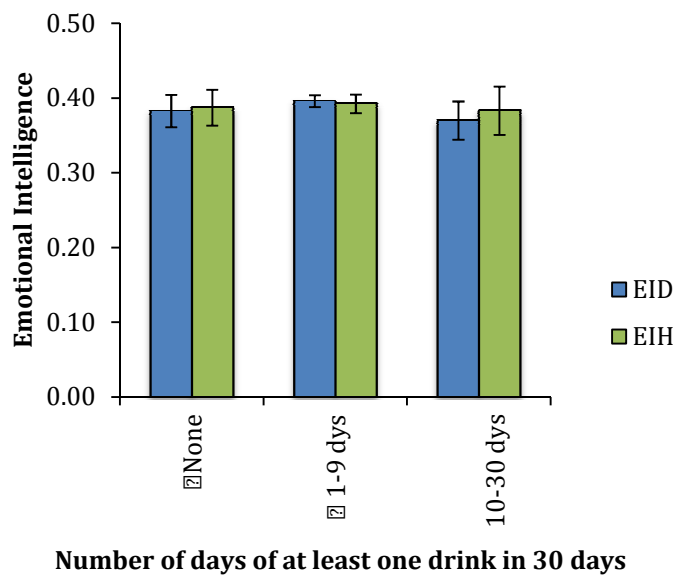

Figure 12. Mean task scores for the Emotional Management Branch for college students answering alcohol behavior question 3: "During the past 30 days, on how many days did you have at least one drink of alcohol" (mean ± SE, n=80).

Correlation of EI with overall risk behavior

There were no significant correlations between risk behaviors and the Emotional

Management Branch, emotional management task, and emotional relations task (Table 1).

Table 1. Correlation coefficients of risk behavior index correlated with EI (* significant at p<0.05; **significant at p<0.01)

Emotional Intelligence	Risk Index
Emotional Management Task	-0.084
Emotional Relation Task	0.05
Emotional Management Branch	-0.011

Correlation of Risk Behavior Variables

Each variable within a risk behavior category (sex, smoking, and alcohol) was

positively correlated with each other. However, not all the risk behaviors used in the study

were correlated (for all significant values refer to Table 2). College students who had sexual

intercourse at a younger age were more likely to smoke and drink alcohol at a younger age,

but were less likely to have ever smoked, consumed more than one alcoholic drink in the past

3 months, consumed at least one alcoholic drink in fewer days in 30 days, and smoked fewer

cigarettes in the past 30 days. Higher number of lifetime sexual partners was correlated with

smoking and drinking at an older age, engagement in smoking behavior, consumption of

more than one alcoholic drink in the past 3 months, greater days of consumption of at least

one alcoholic drink in 30 days, and a greater number of cigarettes smoked in the past 30

days. No use of condoms during last sexual intercourse was correlated with older age for

smoking and drinking, engaging in smoking behavior, consumption of more than one

alcoholic drink in the past 3 months, greater number of cigarettes smoked in the past 30 days,

but fewer number of days where at least one alcoholic drink was consumed in the past 30

days. Higher number of sexual partners in the last 3 months was correlated with smoking and

drinking at a younger age, greater consumption of more than one alcoholic drink in the past 3 months, and engagement in smoking behavior. No use of pregnancy prevention was correlated with smoking and alcohol drinking at an older age, no engagement in smoking behavior, lower consumption of more than one alcoholic drink in the past 3 months, and fewer days of consumption of at least one alcoholic drink in the past 30 days. Early age of alcohol drinking was correlated with no engagement in smoking behavior, older age for smoking, and less number of cigarettes smoked in the past 30 days. Consumption of more than one alcoholic drink in the past 3 months was correlated with engagement in smoking behavior and greater number of cigarettes smoked in the past 30 days. Greater number for days in which at least one alcoholic drink was consumed in the past 30 days was correlated with engagement in smoking behavior, older age of smoking, and greater number cigarettes smoked in the past 30 days.

Table 2. Correlation coefficients of risk behavior variables used in the study (* significant at p<0.05; **significant at p<0.01)

Variable	Sexual Risk Behavior					Alcohol Behavior			Smoking Behavior		
	1	2	3	4	5	6	7	8	9	10	11
1. Age of first sexual intercourse		0.828**	0.619**	-0.690**	0.827**	0.523**	0.393**	0.508**	0.428**	0.462**	0.379**
2. Number of Sexual Partners in Lifetime			0.622**	-0.648**	0.784**	0.520**	0.431**	0.469**	0.355**	0.394**	0.345**
3. Number of Sexual Partners in Last 3 Months				-0.469**	0.677**	0.254*	0.264*	0.218	0.269**	0.357**	0.21
4. Use of condom during last sexual intercourse					-0.625**	-0.460**	-0.421**	0.410**	-0.387**	-0.401**	-0.249**
5. Use of pregnancy prevention during last sexual intercourse						0.390**	0.424**	0.368**	0.284*	0.260*	0.195
6.Age of first regular alcohol drinking							0.684**	0.655**	0.488**	0.510**	0.363**
7.Engaged in consuming more than one alcohol drink in 3 months								0.633**	0.246*	0.186	0.224*
8.Number of days at least one alcohol drink has been consumed in 30 days									0.278*	0.335**	0.412**
9.Engaged in smoking behavior										0.682**	0.599**
10.Age of first time smoking											0.569**
11.Number of cigarettes smoked in last 30 days											

Discussion

These findings suggest emotional intelligence is not associated with sexual, smoking, and alcohol drinking risk behaviors. Even when the data was compiled into a comparative risk index, normalizing for each health risk behavior variable, there were no significant correlations between emotional intelligence and health risk behaviors (Table 1). However, there was a strong trend between engagement in smoking and emotional intelligence, with emotional intelligence being slightly higher for college students that have never smoked than for college students that have smoked (Fig.7). This is consistent with what has been found in previous studies on emotional intelligence and smoking risk behaviors (Trinidad & Johnson, 2004; Trinidad et al., 2004). Trinidad et al. and colleagues (2004) found among 6th graders in middle school, high emotional intelligence was associated with greater perceptions of negative consequences with smoking, and lower likelihood of intending to smoke the following year. It is possible that college students who never smoked were effective in managing their emotions, and therefore did not use smoking as a coping strategy. And these same students who did not engage in smoking behavior were less likely to engage in other risky behaviors because they reflect an overall ability to make decisions that take into consideration negative consequences associated with these behaviors. In this study students who did not engage in certain sexual risk behaviors were less likely to engage in other health risk behaviors. A high number of sexual lifetime partners and no condom use during last sexual intercourse were significantly correlated with engagement in smoking behavior (Table 2). This finding is consistent with findings in Lowry et al. (1994) and Santelli et al. study (1998) that found adolescents who engaged in alcohol and cigarette use were more likely to have multiple sex partners, and not use a condom during their last sexual intercourse.

Also, sexual risk behavior variables were correlated with a cluster of smoking and alcohol behavior variables. Shrier et al. (1996) study had similar findings of strong correlations between sexual risk behaviors and drug use. In their analysis of the 1993 Youth Risk Behavior Survey from the Centers for Disease Control they found a greater number of years of sexual intercourse and early onset of drug use (e.g. marijuana, cocaine, and smoking) was associated with an increased number of sexual partners. The findings in the present study were counter to those found in the literature. A higher number of lifetime sexual partners and partners in the past 30 days was associated with older age for engaging in sex and smoking behavior (Table 2). The same trend was seen for correlations between sexual, smoking, and alcohol drinking behavior. This may be due to a different sample population used in the present study. Previous studies, such as Shrier et al. (1996), have used adolescents as their population of interest to study correlations between risk behaviors, whereas the present study disproportionally sampled students in private colleges (Middleman et al., 1995; Spingarn & DuRant, 1996; Escobedo, Reddy, & DuRant, 1997). It is possible that these students postponed sex because they were more likely to be college bound, and sought independence by living on campus, away from their family. Once in college they engaged in a higher frequency of sexual intercourse because of their new environment, where they may have more exposure to drinking and smoking. However, use of condoms and contraceptives were found to be lower among students who postponed sex, despite engaging in a higher frequency of sexual intercourse. This suggests that students who postpone sex may engage in risky behavior because of their current college environment, but may lack the necessary experience to use their resources effectively to prevent pregnancy or an STD.

Even though engaging in sexual risk behavior and drug use in adolescence has been

found to increase the likelihood of continuing these risk behaviors in adulthood (Tapert, Aarons, Sedlar, &Brown, 2001), the opposite was found in this study. Students who engaged in sex at an earlier age were more likely to begin smoking and alcohol drinking at an earlier age. However, they were less likely to engage in smoking and drinking behavior in the present, and were more likely to use contraceptives and condoms. One explanation for this finding is that students who were engaging in high risk behaviors during their adolescence were exposed or encountered protective factors that offset their level of engaging in risk behaviors (e.g. attending college, greater social support, greater awareness of consequences, involvement in interventions, etc.). Also, their the greater number of years engaging in sex could have made them more experienced with using forms of contraception.

This study has limitations that should be noted. The newer version of the MSCEIT used in this study could have been different than the original MSCEIT despite having a high correlation in validity (Mayer, Salovey, & Caruso, 2002, p. 29 –37). It is possible that several items eliminated from the original version may have contributed to a different assessment of emotional intelligence. In addition, the use of only one branch, the Emotional Management Branch, and the subtask scores for this branch may not have been reflective of emotional intelligence as measured by the full version of the MSCEIT. The subtasks scores, as reported by Mayer et al. have lower reliability and validity than branch or area scores ((Mayer, Salovey, & Caruso, 2002, p. 29 –37). While the MSCEIT scores emotional intelligence through general consensus scoring, based on the popular responses of a representative sample (n=5,000), it is possible some of the questions intended to measure a respondent's ability to use their own emotions to make decisions may have been culturally biased. The questions may describe situations that do not reflect the experiences or beliefs of different cultures.

Also, respondents were able to take the MSCEIT online, independent of a controlled environment, that could have influenced their responses, and contributed to variation within their emotional intelligence scores.

Furthermore, the sample used in this study was not representative of a young adult population. Only students who were attending a community, state, or private college contributed to the sample used in the study. Also, the sample in the study was not representative of a college aged student population. While there was great effort to get a range of college students from different colleges and universities from the Los Angeles area, most of the participants were from The Claremont Colleges. The findings from this study could reflect a similar ability to manage emotions among students from private colleges. Therefore, no difference in emotional intelligence was evident. Since recruiting was done through Facebook and emails, reaching out to possible participants that were familiar with the researcher, most students who participated identified as Hispanic/Latino. The large percentage of Latino/Hispanic students within the college student population could have contributed to a lack of difference in emotional intelligence between levels of risk behaviors.

Foremost, sexuality is a complex social construct that is difficult to measure. That said, one of the limitations to this study was the unintentional bias of the sexual risk behavior questions in favor of heterosexual participants. The questions used in this study were taken from the CDC Youth Risk Behavior Survey, which measures all forms of risk behaviors adolescents might engage in. However, the questions are not appropriate for the sexual practices of adolescents and young adults of different sexual orientations. The following questions: "The last time you had sexual intercourse, did you or your partner use a condom?" and "The last time you had sexual intercourse, what one method did you or your partner use

to prevent pregnancy?" do not necessarily apply to those who identify as lesbian, gay, or bisexual. Because they would not use a condom or a contraceptive to prevent pregnancy, these questions do not measure sexual risk behavior among this population. Also, scaling of these questions does not allow for answers to take into account sexual identity. By answering these questions, this population may seem like they are engaging in greater sexual risk behavior, overestimating the sexual risk behavior college students engage in.

Finally, statistical methods used to analyze the data might not have been appropriate in detecting differences in emotional intelligence among students. Nonparametric tests used to analyze the data may not have had enough power to detect differences. Yet, in preliminary analysis of the data, it was not suggestive of any significant differences. However, it is worth examining the data once more using the appropriate statistical methods, logistic and linear regression, to determine if there are significant differences in emotional intelligence in associated with health risk behaviors.

Future research needs to be done on the relationship between emotional intelligence and health risk behaviors. A longitudinal study incorporating a social–psychological model of risk behavior should be conducted to assess adolescents engagement in health risk behavior, as well as to document changes in emotional intelligence that may play a role in minimizing negative health outcomes. A social–psychological model of risk behavior would provide a better understanding of populations of adolescents and young adults engaging in risk behaviors that could lead greater negative health outcomes by taking into account both their social environment and behaviors. Also, better measurements are needed to take into account sexual identity, race/ethnicity, and class, which may play a significant role in engaging in risk behaviors, and resources available to offset negative health outcomes.

While a relationship between emotional intelligence and health risk behaviors was not found among college students in this study, this does not mean there is no relationship between emotional intelligence and health risk behaviors. It is important to interpret these results cautiously, as investigations on the relationship between emotional intelligence and health risk behaviors are limited. Further research needs to be conducted to investigate the factors that are involved in engaging in risk behaviors, and how emotional intelligence can help give insight into decision-making. In addition, the complexity of interacting health risk behaviors found in this study suggest prevention/intervention efforts must be comprehensive, and personalized to specific populations at risk.

References

Austin, E. J., Saklofske, D. H., Egan, V. 2005. Personality, well-being, and health correlates of trait emotional intelligence. *Personality and Individual Differences* 38, 547–558.

Barber, J. S., Axinn, W.G., & Thornton, A. 1999. Unwanted childbearing, health, and mother-child relationships. *Journal of Health and Social Behavior* 40(3), 237–257.

Brackett, M. A., Mayer, J. D., Warner R. M. 2002. Emotional intelligence and its relation to everyday behavior. *Personality and Individual Differences* 36, 1387–1402.

Buhi, E. R., & Goodson, P. 2007. Predictors of adolescent sexual behavior and a theory-guided systematic review. *Journal of Adolescent Health 40,* 4–21.

Charbonneau, D., & Nicol, A. 2002. Emotional intelligence and leadership in adolescents. *Personality and Individual Differences* 33, 1101–1113.

Centers for Disease Control and Prevention. Sexually Transmitted Disease Surveillance in the United States, 2009. Department of Health and Human Services, Atlanta, GA, USA, 2010.

D'Angelo, D. V., et al. 2004. Differences between mistimed and unwanted pregnancies among women who have live births, *Perspectives on Sexual and Reproductive Health* 36(5), 192–197.

DuRant, R.H., Smith, J.A., Kreiter, S.R., Krowchuk, D.P. 1999. The relationship between early age of onset of initial substance use and engaging in multiple health risk behaviors among young adolescent. *Archives of Pediatric and Adolescent Medicine* 153, 286–291.

Escobedo, L.G., Reddy, M., DuRant, R.H. 1997. Relationship between cigarette smoking and health risk and problem behaviors among U.S. adolescent. *Archives of Pediatric and Adolescent Medicine* 151(1), 66–71.

Finer, L. B., & Henshaw, S. K. 2006. Disparities in rates of unintended pregnancy in the United States, 1994 and 2001, *Perspectives on Sexual and Reproductive Health* 38(2), 90–96.

Goto, A., Yasumura, S., Yabe, J., Anazawa, Y., Hashimoto, Y. 2005. Association of pregnancy intention with parenting difficulty in Fukushima, Japan. *Journal of Epidemiology* 15(6), 244–246.

Guroglu, B., Bos, W., & Crone, E.A. 2009. Neural correlates of social decision making and relationships: A developmental perspective. *Values, Empathy, and Fairness Across Social Barriers* 1167: 197–206.

Jessor, R. 1991. Risk behavior in adolescence: A psychosocial framework for understanding and Action. Journal of Adolescent Health 12, 597–605.

Kost, K., Landry, D. J., & Darroch, J. E. 1998. The effects of pregnancy planning status on birth outcomes and infant care. *Family Planning Perspectives* 30(5): 223–230.

Logan, C., et al. 2007. The consequences of unintended childbearing: a white paper, Washington, DC: child trends and national campaign to prevent teen and unplanned pregnancy.

Lowry, R. et al. 1994. Substance use and HIV-related sexual behaviors among US high school students: Are they related? *American Journal of Public Health* 84(7), 1160–1120.

Matthews, G., Zeidner, M., & Roberts, R. D. (2002). Emotional intelligence: science and myth. Cambridge, MA: MIT Press.

Mayer, J. & Salovey, P. 1993. The intelligence of emotional intelligence. *Intelligence* 17(4), 433–442.

Mayer, J. D., Salovey, P. What is emotional intelligence? In: Salovey P, Sluyter D (eds). Emotional Development and Emotional Intelligence: Implications for Educators. New York: Basic Books, 1997: 3–31.

Mayer, J. D., Caruso, D., Salovey, P. Models of emotional intelligence. In: Sternberg RJ (ed). Handbook of Intelligence. Cambridge, UK: Cambridge University Press, 2000, 396–420.

Mayer, J.D., Salovey, P., Caruso, D.R. 2002. MSCEIT: User's Manual. North Tonawanda, N.Y: Multi-Health System Inc., 1–109.

Middleman, A.B. et al. 1995. High-risk behavior among high school students in Massachusetts who use anabolic steroids. *Pediatrics* 96(2), 268–272.

Najman, J. M., Morrison, J., Williams, G. Anderson, M., Keeping, J. D. 1991. The mental health of women 6 months after they give birth to an unwanted baby: A longitudinal study. *Social Science and Medicine* 32(3), 241–247.

O'Donnell L., O'Donnell, C. R., & Stueve, A. 2001. Early sexual initiation and subsequent sex-related risks among urban minority youth: The reach for health study. *Family Planning Perspectives* 33(6), 258–275.

Sakolfske, D.H., Austin, E.J., Galloway, J., Davidson, K. (2007). Individual difference correlates of health-related behaviours: Preliminary evidence of links between emotional intelligence and coping. *Personality and Individual Differences* 42, 491–502.

Santelli, J. S., Brener, N. D., Lowry, R., Bhatt, A., Zabin, L. S. 1998. Multiple sexual partners among U.S. adolescents and young adults. *Family planning Perspectives* 30(6), 271–275.

Schutte, N., et al. 2006. A meta-analytic investigation of the relationship between emotional intelligence and health. *Personality and Individual Differences* 42(6), 921–933.

Shrier, L.A., Emans, J.S., Woods, E.R., DuRant, R.H. 1997. The association of sexual risk behaviors and problem drug behaviors in high school students. Journal of Adolescent Health 20(5), 377–383.

Somerville, L. H., Jones, R. M., Casey, B. J. 2010. A time of change: Behavioral and neural correlates of adolescent sensitivity to appetitive and aversive environmental cues. *Brain Cognitive* 72(1), 124.

Spingarn, R.W., DuRant, R.H. 1996. Male adolescent involved in pregnancy: Associated health risk and problem behaviors. *Pediatrics* 98(2), 262–268.

Staton, M., et al. 1999. Risky sexual behavior and substance use among young adults. *Health and Social Work* 24(2), 147–154.

Tapert, S. F., Aarons, G. A., Sedlar, G. R., Brown, S. A. 2001. Adolescent substance use and sexual risk taking behavior. *Journal of Adolescent Health 28(3),* 181–189.

Trinidad, D. R., Unger, J. B., Chou, C. P., Azen, S. P., Johnson, C. A. 2004. Emotional intelligence and smoking risk factors in adolescents: Interactions on smoking intentions. *Journal of Adolescent Health* 34(1), 46–55.

Valois, R. F., Oeltmann, J. E., Waller, J., Hussey, J. 1999. Relationship between number of sexual intercourse partners and selected health risk behavior among public high school adolescents. *Journal of Adolescent Health* 25(5), 328–335.

Weinstock, H., Berman, S., Cates Jr., W. 2004. Sexually transmitted diseases among American youth: Incidence and prevalence estimates, 2000. *Perspectives on Sexual and Reproductive Health* 36(1), 6–10.

Appendix A
Institutional Review Board Approval

INSTITUTIONAL REVIEW BOARD, SCRIPPS COLLEGE
JENNIFER GROSCUP, IRB CO-CHAIR
JGROSCUP@SCRIPPSCOLLEGE.EDU
MICHAEL SPEZIO, IRB CO-CHAIR
MSPEZIO@SCRIPPSCOLLEGE.EDU
LINDA SCOTT, IRB ADMINISTRATIVE OFFICER
LINDA.SCOTT@SCRIPPSCOLLEGE.EDU

March 1, 2012

Deborah Ortiz

Dear Deborah,

Your proposed research project "The Association Between Emotional Intelligence and Sexual Risk Behavior Among College Students in Los Angeles" was reviewed by the IRB. Your project is approved by the IRB, conditional upon your submitting a revised application with the edits described below. If you have any questions about the minor revisions described below, please let me know. Once you have submitted your revised application to the IRB, you can begin collecting data without receiving further notice from the IRB. Good luck with your project!

In order to ask the sensitive questions you propose to ask about sexual and alcohol risk taking, you will need to ask them in a completely anonymous manner. You proposal includes contact with the participants during the recruiting, informed consent, and debriefing procedures that threatens that anonymity. Please modify these procedures so that anonymity can be maintained. A suggestion is to conduct the entire project as an anonymous online survey using a survey creation service such as survey monkey. You will need to modify your informed consent document for an online format. Instead of a signature at the end of the page, you should include a statement stating that by clicking the button below the participant asserts that he or she is at least 18 years old and is voluntarily agreeing to participate in the research. You can make this and only this question mandatory to answer. As part of making the process totally anonymous, you should also make your recruitment procedure as anonymous as possible. Send emails to people and post information about the survey that contains the link to the survey so that potential participants do not have to contact you to participate. Please submit a revised copy of these materials.

The committee felt that the manner in which you asked some of your sensitive questions may be increasing the risk to the participants. For example, you ask about the age of first sexual experience. This is a sensitive question to start, but for someone whose first sexual experience was not consensual, this could cause some trauma. You should consider how you could word this more sensitively so you are not making people feel like they are higher risk for a non-consensual experience. Consider this issue for all of your questions. You should also edit your question about SES so that the language is not judgmental. You may also want to reconsider your project title so that it also sounds non-judgmental.

Because you are asking about potentially illegal activity (underage drinking, assuming you will have some participants who are under 21, see below), you must warn participants not to disclose information to you about illegal activity that is not part of your survey in case you cannot keep it confidential. We suggest adding something to your informed consent such as "You will not be asked to disclose any information I can connect to your identity, but if you disclose information about illegal activity to me outside of the survey, I may not be able to keep that information confidential."

You need to specify in your application and in the informed consent document the age the participants must be to participate in the study (either 18 and older or 21 and older).

In your informed consent document, you also need to inform participants that they can skip any questions. You should delete the statement that one of the benefits is learning about emotional intelligence because that is unlikely. You should add that participants may receive no direct benefit.

Because you are proposing to recruit students from other colleges, you may also be required to go through their IRB process in order to do so. You should check with them for their rules.

Your research project is approved for a period of one year from the date given on this letter. If your project has

not been completed by then, you must write to the IRB reporting on the progress of your research and requesting renewal. Be sure to submit your report in time for a renewal to be issued before this one expires. Include in your report any changes that you would like to make to the originally approved project at that point.

If during the conduct of your research you discover changes that should be made to the procedures in the approved project, you must promptly report the proposed changes to the Scripps College IRB via Linda Scott, Administrative Officer to the IRB (v: (909) 607-3601; email: lscott@scrippscollege.edu). No changes may be implemented without IRB approval in advance, except where necessary to prevent or eliminate immediate hazards to participants.

Because we are required to keep track of the number of active files we have open at any one time, we ask that you inform the IRB if your project is not complete within a month after your estimated completion date, or by one month prior to the end of your year's approval, whichever comes first.

If any injuries, participant distress, or other problems involving participants or others are encountered in the conduct of your research, you must notify the Co-Chairs of the IRB (Jennifer Groscup, v: 909-607-0913; email: jgroscup@scrippscollege.edu and Michael Spezio, v: 909-607-0914 or 626-319-1373; email: mspezio@scrippscollege.edu) and Linda Scott (contact information above) as soon as possible. This notification must occur no more than five days after the event.

Thanks so much!

Best wishes,

Prof. Jennifer Groscup
Co-Chair, IRB