

RISKY SEXUAL BEHAVIORS IN ADOLESCENCE:  
THEIR RELATIONSHIP TO SOCIAL-EMOTIONAL INTELLIGENCE

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## **Dedications**

This doctoral dissertation is dedicated to Jason Hazlitt – for ignoring my disheveled piles of research articles, for consoling me through disappointments, for applauding me through victories, and for your eternal patience in this process. I love you.

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## **Abstract**

This study examined the relationship between social-emotional intelligence and risky sexual behaviors in adolescence. Despite the introduction of sex education in public schools, there continue to be high rates of unwanted pregnancies and sexually transmitted diseases in the teenage population. Researchers have demonstrated numerous positive life outcomes for individuals with greater levels of social and emotional abilities. However, studies have failed to examine the precise relationship between such abilities and sexual behavior. In the current study, data was collected from 49 high school students in New York State. Using the Bar-On Emotional Quotient Inventory Youth Version and a researcher-designed questionnaire on risky sexual behavior, teenagers with higher Interpersonal Emotional Intelligence reported less sexual risk taking. A significant relationship was also demonstrated between Risky Sexual Behaviors and a control variable, Delinquency. Due to limited participation and a homogenous sample, the results of this study cannot be meaningfully generalized to the greater population. Therefore, these findings support the need for further research to clarify the relationships among these variables and validate the importance of teaching explicit social-emotional training in sex education curricula.



## Chapter 1

### Introduction and Review of the Literature

Adolescence is a time of change. Many individuals in the transition from childhood to adulthood are faced with considerable challenges. Among those is the decision about whether to engage in sexual behaviors. There are many influences on these decisions, some of which lead to risky sexual behaviors (RSBs). Such behaviors have resulted in prevalent contemporary societal issues including unwanted pregnancies and sexually transmitted diseases (STDs).

A significant contributor to sexual decision-making is peer influence (Allen, Porter, & McFarland, 2006; Crockett, Raffaelli, and Shen, 2006). Adolescence occurs in a social arena. With these peers being key sources of information and validation, it is likely that social skills associated with Social Intelligence (SI) would affect many aspects of a teenager's life (Killgore & Yugellun-Todd, 2007). Generally, SI is thought to be the ability to act adequately in social situations. However, the definition of SI has yet to be clarified. Due to disagreement regarding how to characterize this ability, construct validity is questionable (Ford & Tisak, 1983; Marlowe, 1986). More recent contributions to social research have suggested that Emotional Intelligence (EI), a successor of SI, is a more valid construct and more capable of predicting effectiveness across life experiences (Brackett, Rivers, Shiffman, Lerner, & Salovey, 2006; Lopes., Brackett, Nezlek, Schutz, Sellin, Salovey, et al., 2004; Ryan, 2006). While EI has continuously been shown to be effective in workplace environments (Cherniss, 2000) and as a protective variable for general risky behaviors (Kupermine & Allen, 2000; Leadbeater, Hellner, Allen, & Aber, 1989), little is currently known regarding its relationship to effective sexual decision-making in adolescence.

Recent studies (Douglas, Frink, & Ferris, 2004; Dries & Pepermans, 2007; Gabel, Dolan, & Cerdin, 2005; Harrod & Scheer, 2005; Lopes et al., 2004; Nelson, Low, & Ellis, 2007) urge researchers to further explore the impact of EI on a myriad of situations, including human relationships, as well to as gather data for further understanding of adolescent sexual behavior. This proposed study will investigate how EI relates to sexual behaviors in adolescents.

### **Adolescence**

Research has demonstrated that adolescence is a time of significant change (Broderick & Blewitt, 2006). Beginning at the age of 12 or 13, "...the individual must progress from being a dependent child to being a self-sufficient adult... at perhaps no other time in life... does a transition of such importance take place" (Rubin & Kirkendall, 1968, p. 35). Unlike other cultures that mark adolescence with a single date—the onset of puberty—Western ideals have elongated this transition to nearly 10 years of personal evolution (Gagnon & Simon, 1973). Adolescence is characterized by significant physical and mental growth (Broderick & Blewitt, 2006). Children undergo a sudden increase in hormonal activity, resulting in the maturity of reproductive organs. Brain growth results in cognitive development, allowing concrete thought processes to advance into more abstract thinking. These changes are also responsible for emotional reactivity and sensitivity throughout adolescence.

#### **Risky behavior in adolescence.**

Historically, it has been common for adolescents to engage in risky behaviors. Risky behaviors include those that contribute to adverse life effects including injury, illness, and death (Center for Disease Control, 2007). Through many realms of development, adolescents begin to experiment with new ways of thinking and feeling about life situations. Behavioral manifestations of curiosity allow teens to make and learn from mistakes, developing skills to

achieve adulthood. Emerging, immature judgment combined with perceived invulnerability influence adolescent decision-making (American Psychological Association [APA], 2002). This theory of adolescent invulnerability, initially proposed by David Elkind, stems from his theory of adolescent egocentrism. Elkind proposed that perceived invulnerability is a result of limited cognitive development. Within this theory, he proposed a construct termed the *personal fable*. Adolescents, he reasoned, believe that they are unique—that their experiences are unlike anyone else's. Because they perceive themselves as special, they feel invulnerable to threats posed to the general population (Elkind, 1985). Risk-taking is a common and problematic element in teenage life experiences. Invulnerability results in regular risky decisions, such as not to wear a seat belt in a moving vehicle or to ride in a vehicle driven by an intoxicated driver—each of which could have dangerous consequences (CDC, 2007).

### **Risky sexual behavior in adolescence.**

Risky sexual behaviors (RSBs) are those behaviors that increase the likelihood of having an unwanted pregnancy or becoming infected with an STD. A number of risk-taking behaviors, including RSBs, have long been associated with adolescence. More recently, the invulnerability theory was examined by Quadrel, Fischhoff, and David (1993). In their study, two groups of adolescents were surveyed—one identified as *low-risk subjects* another identified as *high-risk subjects*. Low-risk subjects were solicited from public schools. High-risk subjects were collected from group homes that served adolescents with legal and substance use issues. Those in the high-risk group engaged in significantly higher-risk behaviors that included smoking cigarettes, smoking marijuana, engaging in sexual intercourse, and drinking alcohol. Participants were asked about their perception of how likely they were to experience various risks compared to others (acquaintances, friends, family, etc.). Both groups reported an 8.3% average

probability that they were at no (zero) risk to incidents such as auto accidents, victims of crime, pregnancy, and other dangers. Participants were more likely to perceive others as being more at-risk than themselves. In 1/3 of dangerous situations presented, fifty percent of participants perceived their risk to only be one in 10,000. Specifically related to sexual behavior, more than 50% of participating teens felt they were less vulnerable to unwanted pregnancy than an acquaintance ( $p < .05$ ). The invulnerability theory thus also applies to sexual decision-making, which is an integral component of development in the teenage years.

As children reach puberty and begin sexual development, dating behavior becomes significantly more common. Sexual interest in others is a normal characteristic of adolescence. The average age of beginning dating is generally between the ages of 14 and 16 (APA, 2002). However, this may be changing as sexual maturation occurs earlier over time (Stoppler, 2010). Many such dating relationships can be more friendly in nature, occurring within the context of the peer group and lasting rarely for more than a few months (APA, 2002). Most adolescents prefer serial monogamy—having numerous, short-term, monogamous relationships (Kotich, Armstead, & Forehand, 2006). Given the quantity and frequency of these relationships, the ability to negotiate dating relationships, sex, and sexuality can be a daunting task for teenagers.

Dating allows teenagers to learn emotional skills related to self-disclosure, mutual dependence, and open communication (Sanderson & Cantor, 1995). Within a romantic adolescent relationship, children develop the capacity to reveal and receive feelings. That is, they become able to adequately disclose their own emotions as well as comprehend and accept the emotions of their partner. They learn to show care for one another through affection, respect, and emotional intimacy. Children with poor or delayed cognitive development are more likely to seek multiple dating partners. Dating in the absence of a long-term commitment requires less

communication and mutual dependence. Additionally, those adolescents who are ill-prepared for social-emotional encounters are less likely to engage in safe sexual practices. Contraception and sexual expectations are difficult topics to communicate about without the ability to discuss emotional content effectively (Sanderson & Cantor, 1995). Thus, adolescents who are still developing their social-emotional cognitive abilities are more likely to engage in situations that may put them at risk for pregnancy and sexually transmitted diseases (STDs).

RSBs have been defined based on the following four criteria:

1. Age of sexual debut or age of first sexual intercourse (Bryan & Stallings, 2002):

Early sexual onset, as suggested by Houlihan et al. (2008), may increase an adolescent's self-concept because of the acceptance of the peer group. A heightened sense of self thus results in a behavioral willingness to engage in more sexually risky behavior. As found by Greenburg, Magder, and Aral (1994), females who lose their virginity between the ages of ten and 14 are 1.7 times more likely to have or have had an STD than those who first have sex at age 17 or older.

2. Contraceptive use:

Protected intercourse is essential for the prevention of pregnancy and STDs. Those adolescents who do not use contraceptives (condoms, birth control pills, etc.) significantly predispose themselves to harmful consequences (Bryan & Stallings, 2002; Sienbenbruner, Zimmer-Gembeck, & Egeland, 2007).

3. Number of sexual partners:

The greater the number of sexual partners, the more likely one is to conceive or become infected with an STD (Sienbenbruner et al., 2007). Adolescents who seek multiple partners rather than being sexually active in a monogamous relationship expose themselves to more opportunities for pregnancy and infection.

#### 4. Frequency of sexual encounters:

Increasing the amount of sexual behavior also increases the risk of unwanted pregnancy and contracting an STD (Bryan & Stallings, 2002). This chance is exponentially increased if individuals both engage in sexual contact with numerous partners and use no contraception.

Despite the risks, sexual behavior remains prevalent among teenagers. National data estimates that almost 48% of all teens have engaged in sexual intercourse, seven percent of these experiences were before the age of 13, and nearly 39% had not used condoms in their most recent encounter. While there was a 12% decrease in the number of sexually active adolescents between 1991 and 2007, the proportion of sexual risk-taking among high-school students has remained stable between 2005 and 2007 (National Center for Disease Control and Prevention, 2007). Additionally, there is a lack of descriptive statistics describing the presumed increase of noncoital sexual behaviors such as mutual masturbation and oral sex (Kotchick et al., 2006).

Noncoital sexual behaviors are associated with increased risk of contracting an STD, particularly when done frequently, with varying partners, and without protection (The Henry J. Kaiser Family Foundation, 2002). In most research that examines sexual behavior, questions fail to directly ask about this behavior. Additionally, many do not adequately define *sexual activity*. The majority of research referring to *sexual activity* is simply measuring *sexual intercourse* and fails to address noncoital sexual behaviors. Various statistics across the last three decades suggest that between 20% and 55% of adolescents have participated in oral sex. Adolescents in one study had engaged more in oral sex (54.7%) than vaginal sex (49.9%) (Lindberg et al., 2007). Because there is little confirmation on the incidence of noncoital sex and most sexual research does not address it, one can assume that broad sexual behavior may be more prevalent than reported. As a result of the increasing incidence of risky sexual behavior in recent decades,

there has been a controversial move to implement sex education in American schools, in order to reduce the negative consequences of RSBs.

### **Sex education programs.**

Since the early 1980s, educational boards have implemented three forms of sex education (The Henry J. Kaiser Family Foundation, 2002). By 2002, 95% of public schools had instituted at least one of these programs. Abstinence-only programs were initially developed in 1981 as a result of the Adolescent Family Life Act that sought to prevent teen pregnancy. The government would thus fund programs that taught the benefits of abstaining from sex, the consequences of engaging in sex, the value of abstaining from sex until marriage, and skills to reject sexual advances. Seven years later, a second form of sex education was developed. The Centers for Disease Control and Prevention began funding HIV/AIDS education in response to growing numbers of individuals infected with the virus. Recently, however, the majority of schools (58%) have implemented a comprehensive approach to sex education that includes both information on abstinence and contraception. This approach was feared by conservative parents and educators who believed that providing adolescents with sexual information would result in increased engagement in sexual behaviors. A large proportion of principals (48%) have noted that there is ongoing community discussion of what and how to teach children about sex (The Henry J. Kaiser Family Foundation, 2002).

Whereas sex education programs focus primarily on anatomy, reproduction, and contraceptive use, they, generally, neglect relational and emotional coaching (Family Health International, 1997). Despite the expanding national awareness of teen sexuality and ongoing research in the best practices for the instruction of healthy sexual behaviors, current findings suggest these programs are not very effective. American adolescents still engage in RSBs,

directly resulting in notable rates of unwanted pregnancies and disease. Each year, roughly 750,000 American adolescent females become pregnant (Guttmacher Institute, 2006). That would account for nearly 15% of the adolescent population (U.S. Census Bureau, 2006). Teen pregnancy contributes to detrimental fetal health and negative life outcomes for those children and parents. Infants born to adolescent mothers are more likely to be underweight as a result of poor health practices by the mother such as poor eating habits, smoking, and drinking alcohol (Women's Health Channel, 2008). Furthermore, adolescents who have children are less likely to graduate and are more likely to require Welfare assistance (Kotchick et al., 2006).

Even more detrimental to the health of American youth is the prevalence of sexually transmitted diseases (STDs). Many of these are asymptomatic, thus they can go untreated, and be fatal. Almost 10 million adolescents are infected with an STD each year. Between 2004 and 2005, gonorrhea rates increased 2% while between 2003 and 2006, HIV/AIDS increased 34% (Encyclopedia of Children's Health, n.d.; National Center for Disease Control and Prevention, 2006).

### **Predictors of risky sexual behaviors.**

Some demographic and environmental factors have been identified that can predict or serve as protective variables for RSBs. Though the influences are quite broad, the six most widely cited will be used as controls in the current study. These include: academic achievement, alcohol and/or substance use, delinquent behavior, parental education, family structure, and degree of religiosity. Adolescents who postpone sexual activity have higher grades, fewer problem behaviors, stronger family status and relationships, and more religious attendance and identification. The research about this is described below.

***Academic achievement.***

Academic achievement is related to engagement in RSBs. Adolescents who abstain from sexual activity are significantly more likely to graduate from both high school and college (Rector & Johnson, 2005). High-risk females—those more likely to engage in RSBs—have significantly lower grade point averages (GPAs) in high school (Luster & Small, 1994). In an analysis of protective factors for RSBs, positive attitude toward school and high GPAs negatively correlate with sexual risks (Jessor, Ven Den Bos, Vanderryn, Costa, & Turbin, 1995).

***Delinquency and alcohol/substance use.***

Drug use and delinquency have been positively correlated with engagement in RSBs. In a study by Bryan and Stallings (2002), two groups of adolescents were asked about their involvement in risky sexual behavior. One group consisted of teens in treatment for delinquency and substance abuse. The other group consisted of teens from the community and served as the control. Among both groups, there were statistically significant correlations between substantial delinquent behavior (Conduct Disorder) and unprotected sex ( $r = .97, p < .001$  for the treatment group and  $r = 0.95, p < .001$  for the control group). In a 1989 study by Leadbeater, Hellber, Allen, and Aberet, unprotected sex was also positively correlated with soft drug use such as alcohol and marijuana ( $r = 0.20, p < 0.05$ ) and hard drug use such as heroine and cocaine ( $r = 0.25, p < .01$ ). Furthermore, in a different study, high sexual risk behavior has been positively correlated with alcohol use at age 16 ( $r = 0.50, p < .0001$ ) and drug use at age 16 ( $r = 0.59, p < .05$ ) (Sienbenbruner et al., 2007). Those who describe themselves as frequent drug and alcohol users also report having more sexual partners (Staton et al., 1999).

Adolescent delinquency is also related to RSBs. Delinquent behavior (such as physically fighting and law breaking) that can result in school suspension have been positively related to

repeated adolescent pregnancies (Gillmore, Lewis, Lohr, Spencer, & White, 1997) and earlier onset of sexual activity (Harden, Mendle, Turkheimer, & Emery, 2008; Smith, 1997). Biglan et al. (1988) also found that both antisocial behavior and substance use are predictive of high-risk sexual behavior.

***Parental education and family structure.***

Parents with more education have been found to have adolescents who engage in fewer RSBs. In one study, parental education was significantly negatively correlated with their adolescents' engagement in sexual intercourse (Santelli, Lowry, Brener, & Robin, 2000). Parents who had less than a high school education were more likely to have sexually active children. Using Odds Ratios, female adolescents with less educated parents were found to be 2.47 times more likely to be involved in sexual activity ( $p < .001$ ). Males were found to be 2.58 times more likely to be ( $p < .001$ ). Engagement in intercourse was also correlated with family structure. Males in a home with neither parent were more likely to be sexually active (OR = 2.28,  $p < .05$ ). Both males (OR = 2.43,  $p < .05$ ) and females (OR = 3.24,  $p < .05$ ) were more likely to have had sex if they live in homes with only a father. Females were more likely to be sexually active in homes with just a mother (OR = 1.73,  $p < .01$ ). This research team also found that females were more likely to use condoms if they had college-educated parents. Parent education has also been associated with emotional intelligence in their children. In a 2005 study, Harrod and Scheer found that a parent's level of education is significantly associated with their adolescent child's emotional intelligence (mother's education:  $r = .21$ ,  $p < .001$  and father's education:  $r = .30$ ,  $p < .001$ ).

Furthermore, Langille, Hughes, Murphy, and Rigby (2005) found that non-intact families composed of parents with limited education are significantly more likely to raise children who

exhibit early onset of sexual behavior. Higher education and intact families were found to be protective factors for ever having sex in adolescence. Living with both parents was a significant protective variable for various forms of sexual behavior. The odds of not engaging in anal intercourse or unplanned intercourse and being from an intact family was 60% (OR = 0.6; CI = 95%), and the odds of having fewer sexual partners and being from an intact family was 70% (OR = 0.7; CI = 95%).

All of this research supports that two parent families tend to have children with few occurrences of RSBs (APA, 2002). Surprisingly, socioeconomic status as measured by family income, a variable traditionally related to level of parental education, has not been found to be a significant predictor of RSBs (Langille et al., 2005; Santelli et al., 2000). Therefore parent conscientiousness may be a larger contributor adolescent risk taking. Intact families who are better educated may raise children differently than other parents. This may explain why income, alone, is unrelated to RSBs.

### ***Religiosity.***

Though religiosity generally decreases in adolescence, a sense of meaning and spirit is a common theme for many teenagers (APA, 2002). Religiosity is defined as one's personal belief in, dedication to, and activity in religion. An individual's degree of religiosity can shape various aspects of life. Those adolescents who maintain high levels of religiosity are more likely to avoid risky behavior (Rostosky, Wilcox, Wright, & Randall, 2004). When asked to rate the importance of religion in their life and the amount of time spent in religious activities such as church and prayer, adolescents who rated themselves higher on such items were significantly less likely to engage in risky behaviors such as drug and alcohol use and delinquency (Wagener, Furrow, King, Leffert, & Benson, 2003). Religiosity also impacts sexual behavior. Both passive

and active religious involvement is correlated with less sexual activity and more use of contraceptives (Zaleski & Schiaffino, 2000). In examining seven dimensions of religiosity—attendance, importance, intrinsic and extrinsic motivation, spirituality, interconnectedness, and belief in God—adolescents who did not endorse these characteristics were more likely to voluntarily engage in sexual activity (Holder et al., 2000). When examining affiliation and attendance in a specific denomination, more conservative religious beliefs were predictive of contraceptive use in first and ongoing sexual encounters among adolescent females (Brewster, Cooksey, Gulkey, & Rindfuss, 1998). Furthermore, research suggests that more conservative views and affiliations delay the onset of sexual activity in adolescents (Rostosky, Wilcox, Wright, & Randall, 2004).

#### **Peer influences and their impact on risky sexual behaviors in adolescence.**

It is clear that there are numerous factors contributing to a teen's decision to engage in risky sexual behavior. Another likely integral factor is the growing importance of peer relationships in adolescence. Nearly all adolescent experiences are navigated in a peer landscape (Gagnon & Simon, 1973). As early as nursery school, children begin to shift their social-emotional dependence on adults to their peers. This peer-importance is at its strongest during adolescence (Hunt, 1958). The judgment and acceptance of peers takes precedence over self, parental, and community influences in the teenage years. At no other time in life are the perceptions of others considered to be so important. Seltzer (n.d.) has termed this condition, "frameworklessness" (p.7). She has described a transition of psychological distancing from the dependence on parents. In their search for their own unique identities, adolescents are then left with no reference points or framework for making decisions. Thus, teens begin relying on their

peers as reference points. Peer relationships and comparisons assist in the practice of decision-making and social skill practice.

Identity formation is one of the most important tasks in adolescence (Broderick & Blewitt, 2006). Through the peer group, adolescents can compare themselves with their parents, building on and solidifying unique morals and values. The early teen years are marked by emerging and enhancing sex and gender roles. Males and females develop these conceptions differently. Childhood social rearing influences the adolescent's perceptions of femininity, masculinity, and sexual roles. Parents have impacted children's associations of feminine and masculine sexualities at a very young age. However, these once private scripts become shared and intensified in adolescence, making up "...the conventional sociosexual drama" (Gagnon & Simon, 1973, p. 51). Thus, sexual knowledge and behavior is partially dictated by social cues and societal norms more palpable in adolescence than in any other time in life. Parental upbringing and, later, peer groups, are to some extent responsible for solidifying adolescent identity—including sexual identity. In order to achieve an adult identity, adolescents must make decisions and learn from their mistakes and successes. However, whether it be one influential friend or a clique establishing group norms, decision-making is rarely an independent endeavor in the teen years. It is also these peer groups that facilitate the practice of emerging social and emotional skills, important for the development of romantic interactions (Seltzer, n.d.).

Merely suggesting an action may influence risky peer behavior. Among adolescents in a group condition, participants in a 2005 study were allowed to complete risky decision tasks together—communicating with and advising one another (Gardner & Steinberg, 2005). In this study, participants were asked to play a computer game with one another in which they had to make immediate decisions to drive a car through a yellow light and risk an imminent crash if it

were to turn red as they passed. Those in the solo condition were required to complete the computer task alone. These conditions were also set up for adult groups. Illustrating that adolescents are more prone to making risky decisions, significantly less risk-taking was demonstrated by adults. For all age groups, peer exposure imposed significant increases on risk-taking during tasks.

Peer groups also reinforce teenager's behaviors through the appeal of acceptance and popularity. Such groups require conformity from their members (Arnett, 1995). When a teen's curiosity prompts risk-taking, their behavior is often praised by the peer group. Approval of risk-taking increases the probability of behavioral reoccurrence; this includes sexual encounters (APA, 2002). It is the socialization of peer groups that determines if and how risky traits will be expressed (Arnett, 1995). One study found that adolescents who are more susceptible to peer pressure are 2.2 times more likely to be sexually active (Allen, Porter, & McFarland, 2006). This phenomenon was also demonstrated in a 2006 study by Crockett, Raffealli, and Shen. Children's propensity to risk at ages eight and nine and occurrences of negative peer pressure and sexual risk-taking, later, at ages 15 and 16, was examined. Results showed a significant direct path from risk proneness to negative peer pressure (coefficient = .29) and another significant direct path to sexual risk-taking (coefficient = .11). Therefore, children predisposed to engage in risky situations were more likely to be swayed by peers to engage in RSBs.

This behavior is explained by social learning theory (Bandura, 1977). Social learning theory asserts that a behavior will increase and/or continue if it is socially modeled, reinforced, and rewarded. Social networks, modeling, and expectations combine as essential components in performing risky behaviors and sexual decision-making. When adolescents perceive that a particular behavior will result in being well-liked or accepted by their peers, they will be more

likely to engage in that behavior. Benda and DiBlasio (1994) demonstrated that this theory partially explains why large proportions of adolescents engage in sexual behaviors. Participants who perceived social benefits from sexual activity were significantly more likely to have more frequent sexual intercourse ( $r = .34$  for males and  $.45$  for females,  $p < .01$ ). Furthermore, another study found that the modeling of the behavior by a close friend also influences sexual debut in adolescents (Maxwell, 2002). A close friend's engagement in risky behaviors significantly impacts a teenager's decision to engage in the same behavior within one year. More specifically, Maxwell found that a teen is 1.9 times more likely to engage in risky behavior if their friend had.

### **Social-Emotional Intelligence**

#### **Development of the construct of emotional intelligence.**

The contemporary notion of Emotional Intelligence (EI) arose from the earlier construct of Social Intelligence (SI). Social Intelligence, or more simply put, the ability to act wisely in social situations, was initially proposed by Edward L. Thorndike in an article written for Harpers Magazine (Thorndike, 1920). Thorndike's interest in intelligence was greatly influenced by his better-known research in learning and behavior (Hergenhahn, 2005). His law of effect, which states that responses are strengthened when followed by a satisfying reinforcer, and his law of exercise, which states that repeated stimulus-response connections are strengthened, led him to assume that these are two basic human intelligences. Thorndike proposed, however, that these were abstract intelligences and did not mechanically serve an individual in social situations. He thus suggested that a third type of intelligence—social intelligence—would be the determining factor in life success. SI helps individuals to understand and manage others as well as adapt and interact in social situations.

Thorndike's research was concurrent with the increasing interest in the measurement of general thinking ability, or cognitive intelligence (IQ). David Wechsler contested traditional views of general intelligence, asserting the construct was too narrow to describe human ability. He, like Thorndike, suggested that intelligence is a multi-modal concept with varying abilities. Though he spoke of such abilities as non-intellective factors, his underlying message was the importance of SI (Wechsler, 1943). The proposals of secondary intelligences that are predictive of successful functioning triggered a continuous debate about the definition, existence, and measurement of SI.

Despite Thorndike's early work in identifying and defining SI, subsequent research has criticized the construct. Many believe it is too multidimensional to conceptualize as a cognitive ability that could be statistically distinguishable from the solidified construct of basic IQ (Ford & Tisak, 1983; Marlowe, 1986). There is difficulty in differentiating between forms of intelligence, suggesting that SI may not be a separate entity, but a subset of overall human intelligence. This idea is demonstrated in many cognitive IQ test items that address the social domain, such as what one should do in a fight. Research further suggests that because SI influences interpersonal behavior, it remains incredibly difficult to define the variables comprising SI without observing its behavioral outcomes (Ford & Tisak, 1983). In addition to difficulties separating SI from IQ, SI had been difficult to define alone. SI has not been found to be an independently-validated construct. Marlowe (1986) found at least five domains of SI using factor analysis. Many of these components are skills and abilities related to SI, but in a later study, were found to be statistically distinct from the construct (Heggestad, 2008). In recent decades, researchers have attempted to validate SI within multi-trait and multi-method designs.

For instance, Weis and SuB (2007) identified social understanding, memory, and knowledge as factors in an SI performance model.

The SI construct has also been difficult to measure. A once popular scale, the George Washington Social Intelligence Test, later failed to demonstrate validity (Ford & Tisak, 1983). Furthermore, contemporary SI scales ask abstract questions about situations that most people would not encounter. Further, they believed that those questions that are plausible are still not adequate. Most, they believe, measure verbal IQ and not competence in social situations. Thorndike directly suggested, “It may be that social intelligence is a complex of several abilities, or a complex of an enormous number of specific social habits and attitudes” (Thorndike & Stein, 1937, p. 284). To assess SI by an interview, Taylor (1990) suggested the need for a host of neurological, psychological, and social domain questions from social memory to reactive behavior. Leaders in social intelligence theory later supported these research findings (Kihlstrom & Cantor, 2000).

With confusion surrounding SI, researchers began to concentrate on the influence of emotions in life situations. It was identified that those IQ test items that incorporated social knowledge (e.g., a measure of verbal intelligence on the WAIS asking what to do with a letter found that had an address and stamp on it) are void in emotional content (Mayer & Salovey, 1993). Furthermore, in the mid 1900s, large corporations began to recognize that the effectiveness of workers was highly contingent on their interpersonal abilities and emotional competencies, factors not measured on IQ nor SI tests (Cherniss, 2000).

The EI construct initially emerged from research in cognition and affect. Emotions are vital contributors to human action. Congruence, or matching, of mood with cognition is predictive of behavioral outcomes (Mayer, 2000). For example, sad individuals will focus more

on the depressing aspects of life and therefore develop negative memories of such life events (Bower, 1981). Similarly, on both cognitive and motor tasks, individuals experiencing a pleasant mood are far more likely to perform better (Mayer & Bremer, 1985). Therefore, emotions play a significant role in information-processing. They are capable of affecting cognitive performance and thus motivating individuals to react in various ways. The idea that one's mood can influence thought and thus influence behavior was supported in a 1989 study by Salovey and Birnbaum. These researchers found that affect plays a significant role in behavior. Participants who, for example, reported feeling sad also reported more physical symptoms when they were ill with the common cold or the flu and were also less likely to engage in behavior that would help to alleviate the illness. Similarly, positive emotions facilitated appropriate cognitions such as self-efficacy and risk judgment, therefore influencing individuals to act appropriately. This study suggests that individuals with positive beliefs can more easily behave ways that can alter negative mood states and promote positive behavior.

The importance of emotions was highlighted in research on individuals with Alexithymia. Alexithymia is a personality construct characterized by a lack of emotions (Taylor & Bagby, 2000). It results in difficulty identifying, distinguishing between, and describing personal feelings. Because emotions impact action, individuals who have emotional difficulties are likely more prone to have various behavioral problems. Those identified as having Alexithymia have significant negative correlations between scores on an EI scale and scores on an Alexithymia measure. Clinical case studies of Alexithymia describe individuals who are unable to feel emotion and adequately connect with others. Emotional deficits in those with Alexithymia have thus been associated with psychopathological behavior including substance abuse, eating disorders, and symptoms of posttraumatic stress and somatization. These findings illustrate the

influence of emotions for positive behavior and adequate functioning (Taylor & Bagby, 2000). Emotional capacities are identified on EI measures (Mayer, 2000), showing that EI has a large emotional component that has been lacking in pure IQ and SI scales.

As research on emotions expanded, neuroimaging became important for identifying brain activity associated with affect. Neuropsychological research has demonstrated that differences in brain activity exist when comparing individuals with varying levels of EI. Killgore and Yurgelun-Todd (2007) used fMRI scans to examine the brains of adolescents with low and high EI scores. Those with low EI had significantly more brain activation in the limbic and paralimbic systems. These are primitive regions associated with instinctual responses to emotional stimuli such as *fight or flight*. Alternatively, teens with high EI had significantly more activation in the left cerebellum and right occipital lobe. These areas are associated with higher order executive functioning. They are involved in the complex processing of emotional modulation and visual association important for reading nonverbal cues and effectively responding to emotions. Such findings suggest that adolescents with superior EI will be better able to process and reason in emotional situations.

Results of such neuroimaging studies supported theorists' arguments that EI is a distinct construct and unrelated to traditional IQ, as many believe SI to be. Researchers have not found notable correlations between EI and IQ (Ferrandiz, Ferrando, Bernejo, & Prieto, 2005; Goleman, 1995; Mayer & Salovey, 1993). In Killgore and Yurgelun-Todd's study (2007), prefrontal brain regions shown to be related to IQ are not activated in individuals involved in an emotion-based task. Furthermore, in examining levels of life satisfaction, EI was a significant predictor ( $r = .49$ ,  $p < .01$ ). IQ, on the other hand, showed no relationship to life satisfaction (Gannon & Ranzjin, 2005). Therefore, researchers suggest that EI is significantly more important than a basic SI

model or traditional understanding of IQ for predicting daily functioning (Goleman, 1995; Kemper, 1999).

The study of emotions eventually took precedence in the understanding of social effectiveness. Daniel Goleman (1995) was an integral theorist who popularized the EI construct. Goleman defines the construct based on the early EI research of Salovey, stating that EI is comprised of five competencies: knowing one's own emotions, managing one's emotions, motivating one's self, recognizing others' emotions, and handling relationships. BarOn (2006) later described EI as "... a cross-section of interrelated emotional and social competencies, skills, and facilitators that determine how effectively we understand and express ourselves, understand others and relate with them, and cope with daily demands" (p. 3).

Both Goleman and BarOn describe EI in terms of a mixed model. That is, they support early theory in the importance of social skills with later research in emotions. They propose that everyone is born with emotional intelligence that gives them the potential capacity for developing social skills across their lives. That is, the capacity to learn such skills is innate. For those born with the propensity for social and emotional abilities, skills can be taught throughout the lifetime. Currently, there are a number of validated models of EI in research, defining it based on ability, trait, or both. The earliest and most widely accepted model is the BarOn mixed model of social-emotional intelligence. Goleman (2006), referring to his previous contention of the importance of EI, later stated that emotional intelligence and social intelligence are not mutually exclusive. They are related with and influence each other. Thus, to effectively measure EI, one would need to take into account social variables. With roots in Darwinian theory, the BarOn mixed model views emotionally-intelligent behavior necessary for effective adaptation. He asserts that emotional intelligence is comprised of necessary social and emotional

competencies. In addition to an evolutionary basis, the BarOn model pulls from a robust history of EI research such as importance of social skills to be successful in interpersonal situations, as initially suggested by Thorndike and Wechsler. Containing four subcomponents (Intrapersonal, Interpersonal, Stress Management, and Adaptability), this model suggests that effective development of social and emotional skills results in the successful negotiation of social and emotional demands occurring in many realms of daily life (BarOn, 2006).

### **The importance of emotional intelligence.**

EI has been shown to be important for many aspects of successful functioning (Goleman, 1995). Using a basic definition of EI as "...a learned ability to think constructively and behave wisely" (Nelson, Low, & Ellis, 2007, p. 33), many researchers have validated EI's ability to facilitate favorable life experiences. Brackett, Rivers, Shiffman, Lerner, and Salovey (2006) demonstrated that overall psychological well-being and life satisfaction were positively associated with scores on EI scales.

### ***Individual characteristics.***

EI has been significantly correlated ( $p < .001$ ) with positive individual characteristics, including assertion ( $r = .58$ ), comfort (.47), decision-making (.51), leadership (.43), drive-strength (.51), time management (.36), commitment ethic (.42), self-esteem (.69), and stress management (.54) (Cox & Nelson, 2008). EI is also correlated with variables associated with positive job performance in business managers (Dries & Pepermans, 2007; Gabel & Cerdin, 2005). Conscientiousness can also be predicted by levels of EI (Douglas, Frink, & Ferris, 2004). On the other hand, deficits in emotional intelligence can lead to detrimental life outcomes. In the male population, low EI is predictive of substance use and deviance, while higher EI is related to positive relations with friends and efficient self-care (Brackett, Mayer, & Warner, 2002).

### ***Academic achievement.***

In a study examining social and academic outcomes of varying levels of EI in adolescence, Marquez, Martin, and Brackett (2006) found that EI contributes significantly to the variance in six of the nine variables analyzed, including cooperation abilities, self-confidence, leadership skills, dominance, pro-social behavior, and grade-point-averages. In a similar study of Malaysian students, EI was significantly positively correlated with achievement motivation, self-esteem, and self-efficacy in both Math and English (Elias et al., 2007).

### ***Interpersonal relationships.***

Additional research has demonstrated that EI influences interpersonal relationships. For example, being able to regulate emotions directly affects long-term, quality social competence, as demonstrated in path analysis (Eisenberg, Fabes, Guthrie, & Reiser, 2000). Emotional regulation is also associated with positive interactions with friends and healthy relationships with the opposite sex (Lopes et al., 2004). Managing emotions allows for the formation and maintenance of quality relationships and using emotions is important for daily social interactions. The use of EI skills, particularly managing emotions, is essential to peer relationships (Ryan, 2006). Similarly, components of EI were also found to be significantly correlated with a number of positive variables including strong self-regard, social confidence, school abilities, self-acceptance, acceptance of others, secure attachment, and appropriate self-presentation. They were negatively correlated with problematic characteristics such as preoccupied attachment, validation-seeking, and inappropriate self-presentation (Lopes et al., 2004). Social reasoning, or beneficial interpersonal exchange, has been shown to positively correlate with scores on valid EI scales. EI scores were also significantly correlated to social reasoning rather than non-social reasoning tasks. Also during fMRI scans, the left frontal polar

and temporal cortices of the brain were activated during participation of a social exchange task. These areas help facilitate social interactions (Reis et al., 2007).

***BarOn scale and positive life outcomes.***

With respect directly to BarOn's scale measuring social-emotional intelligence, research has demonstrated significant correlations between social-emotional intelligence and a number of outcomes. Those with higher scores on BarOn's total Emotional Quotient (EQ) have significantly better physical health (as measured in cancer survivors) and psychological health (as measured in clinical groups). Higher scores have also been associated with positive social interaction and self-actualization. Those with higher scores also have significantly better school performance, with about a .45 correlation between GPA and EQ. Lastly, the BarOn mixed model is strongly associated with subjective well-being (BarOn, 2007).

**Sex differences in social-emotional intelligence.**

Males and females perform differently on social-emotional intelligence measures (BarOn, 2006). Females generally perform better on interpersonal dimensions of EI scales.. That is, women are more aware of emotions, more empathic to others, and are more socially responsible. Females also scored significantly higher than males on the BarOn Emotional Quotient Inventory Youth Short Version (Mean difference = 2.64;  $t = 2.35$ ,  $p < .05$ ). Males, conversely, had higher self-regard, more self-reliance, better coping mechanisms, better problem-solving skills, and are more self-reliant and optimistic.

**Social-emotional intelligence and adolescent behavior**

Due to the significant influence of peers in adolescence, it is plausible that teens with better social and emotional skills would be better able to function in social arenas. In adolescence, crucial cognitive changes related to such competencies occur. As humans transition

from childhood to adolescence, cognitive development allows the child to think more logically and abstractly as a result of more specialized and efficient neural circuitry. In doing so, they develop the emotional capacity to make sense of themselves and their unique identity in relation with others (APA, 2002). Although there are no significant differences in EI among adolescents ages 16 to 19 (Harrod & Scheer, 2005), there do appear to be slight increases in EI across adulthood. A study by Buckholdt Associates (2000) examined EI scores in participants ages 16 to 80. Using the BarOn Emotional Quotient Inventory (a scale with a mean of 100 and a standard deviation of 15), they found that EI moderately, but not significantly, increases with age after adolescence. At ages 16 to 19, the average score was 95.3 and, by ages 40 to 49, the average score was 102.7. These studies suggest that the social-emotional maturity that is substantially being developed in adolescence continues to improve into young and middle adulthood.

EI is, likely, important in adolescent development. Such competencies are imperative to managing the stress of transitioning into adult roles, as well as interpersonally relating to those around them. Because the age of sexual maturation has decreased, many children are encountering the demands of adolescence before they are emotionally and cognitively prepared. Females who physically mature early are more likely have earlier engagement in sexual activity (Deardorf, Gonzales, Christopher, Roosa, & Millsap, 2005). This phenomenon may be related to underdeveloped emotional abilities.

In 2002, the APA collected and analyzed many years of research on adolescent development. In doing so, they identified the EI competencies most important for adequate adjustment. These include recognizing and managing emotions, developing empathy, learning to resolve conflict constructively, and developing a cooperative spirit. Teenagers must have the

ability to recognize their own emotions in order to understand their causes and evaluate potential resolutions. Because many emotions are influenced by interpersonal interactions, adolescents must learn to understand others' verbal and nonverbal expressions of emotion, appropriate methods of reacting to them, and how to apply appropriate problem-solving and conflict resolution skills. Malek (2000) found that overall Emotional Intelligence is significantly correlated with collaboration and compromising—skills needed for effective conflict resolution. Those with higher EI tend to use appropriate conflict resolution skills. That is, they use effective assertiveness techniques rather than avoiding the situation or accommodating the other individual.

Skills such as effectively communicating needs, judging others' intentions, and implementing strategies to adequately make and cope with decisions are also integral variables in healthy social functioning. Throughout adolescence, the child is faced with novel challenges requiring the development and application of social and emotional skills. Killgore and Yugellun-Todd (2007) suggest that these competencies are

- (1) self-awareness and the ability to communicate emotional needs effectively, (2) accurate perception of the emotions of others and the ability to respond appropriately to those emotions, (3) the ability to regulate emotions in a healthy and productive way, (4) flexible coping skills and effective interpersonal problem-solving, and (5) a positive affective outlook when faced with adversity. (p. 140)

For example, self-regulation, or the ability to monitor and control emotions and behavior is related to impulse control—a significant contributor to engagement in risky behaviors among adolescents who lack such competencies. With respect to self-regulation, Raffailli and Crockett (2003) demonstrated that lower levels predict RSBs across the span of the adolescent years.

Research has also found that adolescents who can demonstrate high levels of social abilities are more likely to behave prosocially, such as becoming involved in social situations, helping others, and engaging in generally appropriate functioning in interpersonal situations (Ford, 1982). Social skills may be thought of as the many skills that aid in the adequate interaction with others. Adolescents who lack social skills, such as negotiation and problem-solving strategies, are far more likely to be engaged in deviant behaviors (Kupermine & Allen, 2000; Leadbeater, et al., 1989).

Emotions can also be critically important in influencing behavior. For instance, when behaviors are viewed as positive (they have pleasant emotions related to the behavior), the occurrence of those behaviors are likely to occur again. Teens who engage in positively-perceived sexual exploration are more likely to engage in those encounters in the future. In a longitudinal study (Brady & Halpern-Feisher, 2008), researchers examined four surveys completed by adolescents from the beginning of ninth to the end of tenth grade. Those who initially reported many sexual experiences were more likely to initially report more positive (rather than negative) consequences including having a good reputation and having their friends be proud of them. However, this tendency decreased over time from ninth to tenth grade. Researchers reported that 37% of sexually experienced adolescents reported positive consequences at the beginning of the study compared to 8% at the end of the two-year period. It has been suggested that initially, these teens found social benefits from engaging in sexual behavior. However, the praise of peers did not sustain their behavior in the long-term. While peer influences substantially influence sexual behavior in adolescence, other variables, such as emotional competencies, contribute to the continuity of the behavior. Dong's research (2003)

suggests that two elements impact involvement in risky behaviors. These are external dimensions such as the social environment, and internal dimensions such as EI.

With respect to risky sexual behaviors, no research has directly measured the impact of EI. However, EI has been shown to be a predictor of sexual offending among adolescents (Moriarty, Stough, Tidmarsh, Eger, & Denmsion, 2001). Sexual perpetrating may be considered an extreme form of RSBs that blends poor sexual decision-making with aggressive or antisocial traits. Adolescent sex offenders lack emotional skills such as labeling their own and others' emotions, controlling emotions, establishing meaningful and intimate relationships, and empathy. Results of this study demonstrated that male adolescent sex offenders scored below average on EI items measuring sociability, assertiveness, and support. More specifically, a lack of attention to feelings was significantly correlated with engagement in sexual perpetrating ( $F = 6.07, p < .05$ ). Thus, male adolescents who exhibited potentially harmful sexual behaviors had inadequate levels of emotional intelligence.

### **Summary**

Considering the wealth of research on adolescence and emotional intelligence, it is evident that social-emotional abilities are essential characteristics for healthy decision-making and social interactions in the teenagers, especially as they navigate their complex development in increasingly social environments. Skills such as self-regulation and problem-solving assist in the formation and maintenance of meaningful relationships. Similarly, as EI is able to predict adequate functioning in interpersonal scenarios, it is likely to also be important in negotiating the sexual arena. Sexual activity occurs in a social context, involving communicative give and take between the two parties and the assertive statement of needs and feelings. Without emotional capacities, children who are still developing or delayed in these abilities struggle to negotiate

such encounters. They may fall victim to attributions of invulnerability and rely on the pressure from peers and the perceived rewards to continue engaging in risky behaviors. Additionally, sexual refusal, demanding the use of contraception, and seeking appropriate intimacy may be less likely without adequate social-emotional intelligence.

EI researchers have shown the construct to be a valid and independent assessment of social-emotional functioning, separate from a less strong measure of social intelligence or predictive measure of general cognitive intelligence. Contemporary measures of EI verify that the abilities of which it is comprised operate in social domains, an arena important in the lives of adolescents and their sexual decision-making. Furthermore, EI can be predictive of numerous life outcomes. The ability to manipulate internal emotions and appropriately, outwardly express emotions aid in cognitive comprehension of social situations. These abilities influence behavioral responses to social stimuli, including sexual encounters in adolescence.

While both adolescent sexual behavior and emotional intelligence have been extensively studied, no researchers have directly investigated the relationship and impact of these variables with each other. Since EI has been shown to be a predictor of successful social outcomes, it is possible that an adolescent's level of social-emotional intelligence may be directly related to and serve as a buffer for their engagement in RSBs.

### **The Current Study**

In order to investigate this question, this study was designed to examine adolescent social-emotional intelligence on a measure incorporating those capacities listed by Killgore and Yurgellen-Todd (2007) and constructed by BarOn (2006). Adolescent engagement in risky sexual behaviors will also be investigated. It was hypothesized that scores on a social-emotional intelligence measure would be negatively correlated with scores on a questionnaire designed to

measure adolescent's level of engagement in RBSs. That is, adolescents who demonstrate a high level of social-emotional intelligence will report limited engagement in RSB's.

## Chapter 2

### Method

#### Participants

Data for this study were collected from general education adolescents attending high school in rural New York State. The participants ranged in ages from 13 to 19. To achieve a desired moderate effect size (0.15) with a 0.05 alpha level, an a-priori sample size of 108 was desired (Soper, 2010). Participants were solicited from over 25 high school principals and school psychologists, as well as coordinators of youth agencies over two years. Those contacted were provided with a summary of the research and its potential implications and promise of a completed copy of the research upon completion. Of the organizations contacted, two school administrators agreed to participate. Written overviews of the research and consent forms were distributed to all students in the schools (roughly 800 consent forms total – 400 in each school). Students were asked to return the consent forms within several weeks and were given a candy bar when signed consents were returned. At one school, the due date was initially extended due to low response. The extension expanded participation by only five students. After data collection from both schools was complete, only 49 students had participated.

Table 1 represents the descriptive statistics of the sample. The mean age of participants was 16.29. Most students were female (57%) and most participants were in ninth grade (37%). The majority of participants lived with intact families (78%) whose parents both had college or advanced degrees (23%). A large proportion of students (76%) had participated in a school-based sex education program. Furthermore, most students reported having high academic achievement. The average GPA was 3.53 on a four-point scale.

Table 1

*Descriptive Statistics of Major Study Variables*

Variable	<i>n</i>	%
Sex		
Males	21	43
Females	28	57
Grade		
9	18	37
10	8	16
11	10	20
12	13	27
Family Structure		
Intact Families	38	78
Non-intact Families	11	22
Parent Education		
Both Parents - Some High School	1	1
Both Parents - Finish High School	6	8
Both Parents – Some College	3	4
Both Parents – Finish College	8	8
Both Parents – Advanced Degree	3	4
Mothers - Some High School	3	4
Mothers - Finish High School	1	1
Mothers – Some College	5	7
Mothers – Finish College	14	19
Mothers – Advanced Degree	5	7
Fathers - Some High School	2	3
Fathers - Finish High School	7	9
Fathers – Some College	6	8
Fathers – Finish College	7	9
Fathers – Advanced Degree	6	8
Sex Education		
Participation	37	76
No Participation	12	24

## **Variables**

### **Primary factors.**

This study investigated the relationship of Social-Emotional Intelligence (SEI) and Risky Sexual Behaviors (RSBs) in adolescence. Risky behaviors among individuals age 13 through 19 include earlier age of first sexual intercourse (particularly before the age of 13), limited to no contraceptive use, multiple sexual partners, and frequent sexual intercourse (Bryan & Stallings, 2002; Harden, et al., 2008; Houlihan et al., 2008; Sienbruner et al., 2007). SEI, according to BarOn (2006) is described in terms of both social and emotional functioning. When defined in ability terms, SEI influences an individual's effectiveness at processing, understanding, and utilizing their own and others' emotions to promote optimum functioning. Generally, those who are high in SEI will demonstrate adequate perception, use, understanding, and maintenance of emotions.

### **Control factors.**

Extraneous, potentially confounding variables' influence was accounted for. These included researched-based predictors of RSBs previously discussed: academic achievement, a history of delinquency and alcohol and/or substance use, parental education and family structure, and degree of religiosity. In addition to these, participation in sexual education classes was also controlled. Since the implementation of such school programs, sexual activity among adolescents has mildly decreased (National Center for Disease Control and Prevention, 2007) and may influence sexual behaviors in this population.

## Materials and Measures

### Adolescent behavior questionnaire.

A researcher-designed, 30-item self-report questionnaire was used to obtain demographic information and measure family structure, parental education, delinquent behavior, academic achievement, exposure to sex education, drug and alcohol use, and RSBs. Most of the questions measuring these variables were obtained from questions used in previous research. This questionnaire (see Appendix A) included some items that served to distract the participant from the core constructs being measured. Some previous research in adolescent sexuality suggests that adolescents provide valid self-reports (Upchurch & Mason, 2002).

The four primary criteria that determine sexual behavior as being *risky* were each directly measured in the questionnaire using Likert-scale. Contraceptive use was measured using a question from Bryan and Stallings' research (2002). Number of sexual partners was measured using a question from research by Sienbenbruner et al. (2007). Frequency of sexual intercourse was measured using a question from Capaldi et al.'s study (2002). Lastly, age of sexual onset was assessed using a question from Greenberg et al.'s 1994 study. An additional response was added that specifies that the child has not yet engage in sex. Higher scores on these items indicated greater risk (see Appendix B for scoring instructions).

The related variables were also measured in this questionnaire. Each of these has been found to be predictors of RSBs. Adolescents were asked questions regarding their family structure and parent education. They were also asked to report their high school GPA as a measure of academic achievement and their frequency of school-related punishments for a measure of delinquency. Four questions were asked in order to assess the level of participation and belief in religious activities. These questions were taken from the Association of Religious

Data Archives (ARDA, 1998). Additionally, three questions were asked directly measuring levels of substance use. These were taken from the Granite Bay High School Substance Use Survey (Citizens Advocating Safe and Healthy Youth, 2009). One point on the Likert scale was altered slightly to indicate usage as 11 or more times, rather than 15 or more times as cited in previous research.

**BarOn Emotional Quotient Inventory: Youth Version (EQ-i:YV), Short Form.**

The BarOn EQ-i:YV (BarOn & Parker, 2000) is a self-report measure of social-emotional intelligence. This scale and its predecessors were developed based on the BarOn Model of Emotional Intelligence. The measure was chosen for this research because it is the most widely used SEI tool and provides validated data on the emotional dimensions relevant to adolescence (Killgore & Yurgullen-Todd, 2007). The development of the Youth Version scale is based entirely on BarOn's model of social-emotional intelligence and has been normed on 9,172 children ages seven to 18 (BarOn & Parker, 2000). Development of the scale underwent rigorous exploratory and confirmatory factor analysis.

While producing a Total Emotional Intelligence (EQ) score, the BarOn EQ-i: YV includes four areas of emotional competencies including Intrapersonal, Interpersonal, Stress Management, and Adaptability (see Appendix C) as determined by confirmatory factor analysis. Each of these scales reflect the competencies noted by the APA (2002) that adolescents should develop in order to be successful. It is a self-report Likert-scale test with separate norms for sex (males and females) and age (grouped into seven to nine year olds, ten to 12 year olds, 13 to 15 year olds, and 16 to 18 year olds). Each item includes responses on a four-point Likert scale ranging from *Very seldom true of me* to *Very often true of me*. With the average score of 100 and a standard deviation of 15, higher scores indicate effective social and emotional functioning with

greater prediction of success in daily life (BarOn, 2007). The intrapersonal component directly measures appropriate understanding and expression of an individual's emotions and that person's ability to communicate their needs to others. The interpersonal scale is important for measuring one's ability to respond appropriately in interpersonal situations. The stress management scale measures the ability to regulate one's self and his or her emotions. Lastly, the adaptability scale measures one's ability to cope with change. In addition to the basic EI scales, The BarOn EQ-i: YV also produces a Positive Impression scale. This was designed to identify children who "fake good" on the test and thus improves validity (BarOn, 2007; BarOn & Parker, 2000).

The 60-item scale has been modified to a short version including 30 of the original items (BarOn & Parker, 2000). This has been reported to take only ten minutes to complete compared to the 30 minutes expected on the Long Form. The Long and Short Forms are strongly related to one another (between .92 and .98 correlations across scales for males and females), indicating the strength and appropriateness of this measure for the current study.

Similar to the Long Form, the Short Form is has demonstrated moderate to strong reliability and validity (see tables in Appendix D and E). Reliability coefficients are typically considered to be strong at or above the .80 level. The Short Form items are reliably measuring the same construct (internal reliability ranges from .84 to .85 for sex and age). Furthermore, there has been consistent respondent reliability (test-retest reliability ranging from .81 - .88). There are low correlations between subscales, indicating that these are distinct features (intercorrelation validity coefficients are in Appendix E). Additional research has demonstrated that there are limited relationships with personality measures thought to be related to emotional abilities (i.e., divergent validity), and high correlations to measures of depression and problem behaviors SEI is thought to predict (i.e., convergent validity) (BarOn & Parker, 2000).

The BarOn EQ-i: YV Short Form is also internally reliable (.84 for total EQ). Additionally, test-retest reliability is strong (.87 for total EQ). The Interpersonal EQ scale is not as strongly reliable as the other scales (.73 - .77 depending on age and sex). The BarOn, in its entirety, has predictive validity (.59 on average) for a variety of human behaviors including school performance, psychological well-being, and interpersonal interactions. Studies using the BarOn for predictors of performance have demonstrated that this scale and its components are a better predictor for such qualities than other scales based on ability models (BarOn, 2006). Thus, it is a solid, reliable, valid, and highly researched tool appropriate for the parameters of the current investigation. See Appendices E for specific reliability and validity statistics.

### **Procedure**

Students were solicited to participate in this study from a variety of sources. Primarily, local school districts were encouraged to participate. Other sources included youth programs. The names of all participants were placed into a drawing to win an iPod and iTunes gift certificate and each participant received a candy bar for completing and turning in the consent form. Potential subjects were told that they would be filling out questionnaires so that researchers can better understand social skills and how they relate to basic adolescent behavior. A formal debriefing followed the completion of the data collection. For those participants solicited from high schools, data collection took place during a pre-designated period by the school in the school's cafeteria. The survey process was counter-balanced: half of the students completed the behaviors questionnaire first, while the other half will complete the BarOn EQ-i: YV first and the behaviors questionnaire second.

## Chapter 3

### Results

This research studied sexual behavior and social-emotional intelligence in 49 students in upstate New York while controlling for academic achievement, delinquency, religiosity, substance use, family structure, parent education, and participation in sex education. There was relatively low involvement in delinquency, religiosity, and substance use (see Table 2). Also in this sample, students tended to score higher than the normative population on scales of the BarOn (Total EQ = 106.24, Intrapersonal EQ = 100.53, Interpersonal EQ = 101.92, Stress Management EQ = 103.84, and Adaptability EQ = 109.49).

Table 2

#### *Psychometric Properties of the Major Study Variables*

Variable	M	SD	Minimum	Maximum
Delinquency	1.11	0.33	0.0	10.65
Religiosity	6.14	6.33	0.0	20.00
Substance Use	4.35	9.95	0.0	32.00
Risky Sexual Behavior	7.71	8.91	0.0	31.00
Total Emotional Quotient	106.24	15.29	79.0	138.00
Intrapersonal EQ	100.53	19.15	67.0	137.00
Interpersonal EQ	101.92	13.09	74.0	124.00
Stress Management EQ	103.84	15.02	65.0	126.00
Adaptability EQ	109.49	15.83	78.0	132.00

Five multiple regression analyses were conducted to examine the relationship between total scores on the sexual behavior items from the questionnaire and each of the five BarOn EQ scales – Total Emotional Intelligence (EQ), Intrapersonal EQ, Interpersonal EQ, Stress EQ, and Adaptability EQ. Seven related variables were included in the analysis – Academic

Achievement, Family Structure, Parent Education, Delinquency, Religiosity, Substance Use, and Participation in Sex Education. The regression analyses sought to determine if Social-Emotional Intelligence could explain some of the variance in RSBs not otherwise explained by variables already described in prior research. Post-hoc diagnostic testing revealed that the substance use variable violated three assumptions of regression. The variable lacked linearity, homoscedasticity, and normality. With higher levels of risky sexual behavior, substance use incurred more variability. Substance use was skewed in a positive direction (3.76). Therefore, most students were scoring low on substance use items, indicating little substance use in this sample. The variable also suffered considerably from kurtosis (16.826). This leptokurtic distribution indicated that most students responded similarly and that their scores clustered around the mean of the sample. That is, there was little scatter in scores. As a result of these violations, substance use was eliminated from the final regression model.

Table 3 illustrates the resulting correlations between the dependent and independent variables. Some relationships were minor while others were moderately and significantly correlated. Sexual Behavior was not significantly related to Interpersonal EQ or Adaptability EQ. However, it was significantly related to Total EQ ( $r = -.27, p < .05$ ), Interpersonal EQ ( $r = -.36, p = .01$ ), and Stress EQ ( $r = -.24, p = .05$ ). With regard to the control variables, risky sexual behavior was not related to academic achievement, parent education, or participation in sex education. Risky sexual behavior was, on the other hand, significantly related to Family Structure ( $r = -.24, p = .05$ ), and Delinquency ( $r = .46, p < .01$ ). Risky Sexual Behavior was approaching significance at a mild level with Religiosity ( $r = -.22, p = .07$ ). Interpersonal EQ and Delinquency were the most strongly correlated with risky sexual behavior ( $r = .46$  and  $-.36$ , respectively).

Table 3

*Correlations Among Major Study Variables*

	Sex Behavior		Total EQ		Intrapersonal EQ		Interpersonal EQ		Stress EQ		Adaptability EQ	
	Cor.	<i>p</i>	Cor.	<i>p</i>	Cor.	<i>p</i>	Cor.	<i>p</i>	Cor.	<i>p</i>	Cor.	<i>p</i>
Sex Behavior			<b>-.27</b>	<b>.03</b>	-.13	.18	<b>-.36</b>	<b>.01</b>	<b>-.24</b>	<b>.05</b>	-.02	.46
GPA	-.13	.18	-.02	.44	.09	.28	-.18	.11	-.01	.47	-.05	.37
Family structure	<b>-.24</b>	<b>.05</b>	.04	.38	-.04	.39	-.03	.42	<b>.25</b>	<b>.04</b>	-.10	.25
Parent education	-.11	.23	.22	.07	.09	.28	.18	.11	.13	.18	.17	.12
Delinquency	<b>.46</b>	<b>.00</b>	<b>-.27</b>	<b>.03</b>	-.22	.06	-.20	.09	-.15	.16	-.09	.26
Religiosity	-.22	.07	.14	.18	.14	.17	<b>.33</b>	<b>.01</b>	-.21	.07	.20	.09
Participation in Sex education	-.15	.16	<b>.31</b>	<b>.02</b>	<b>.35</b>	<b>.01</b>	.11	.23	.12	.20	.12	.20

Bold items indicate statistical significance ( $p \leq .05$ )

Table 4 shows the amount of variance accounted for in each of the five regression analyses. In each analysis, the group of variables – an EQ scale and 6 control variables – significantly predicted RSBs. However, analysis of the beta weights indicated that of the EQ scale, Interpersonal EQ, was the only significant predictor of RSBs ( $\beta = -.30, p = .04$ ). This model explains 37% of the variance in risky sexual behaviors ( $R^2 = .37$ ). This was significant at the .01 level ( $F = 3.77 [7]$ ).

The regression analyses for Total EQ (see Table 5), Intrapersonal EQ (see Table 6), Stress Management EQ (Table 7), and Adaptability EQ (Table 8) did not have significant correlations between the BarOn scales and risky sexual behaviors variables. The Interpersonal EQ scale (Table 9), on the other hand, did have a significant relationship with risky sexual

behaviors. In each model, the control variable, Delinquency, was a significant predictor of risky sexual behavior. The other control variables were not significantly related to RSBs (see Coefficients in Tables 5 – 9).

Table 4

*Linear Multiple Regression Model Summaries*

Variable	$\Delta R^2$	F	$p$
Total EQ	.32	2.70	.02*
Intrapersonal EQ	.29	2.44	.04*
Adaptability EQ	.29	2.44	.03*
Stress Management EQ	.33	2.90	.02*
Interpersonal EQ	.37	3.37	.01*

\*  $p < .05$ 

Table 5

*Standardized Coefficients from Regression Analysis Predicting Total Emotional Intelligence from Risky Sexual Behaviors and Control Variables*

Variable	$\beta$	$p$
Academic Achievement	-.10	.48
Family Structure	-.20	.15
Parent Education	.08	.57
Delinquency	.41	.01*
Religiosity	-.19	.15
Sex Education	.06	.68
Total EQ	-.16	.26

\*  $p < .05$

Table 6

*Standardized Coefficients from Regression Analysis Predicting Intrapersonal Emotional Intelligence from Risky Sexual Behaviors and Control Variables*

Variable	$\beta$	$p$
Academic Achievement	-.09	.52
Family Structure	-.20	.17
Parent Education	.07	.66
Delinquency	.43	.01*
Religiosity	-.20	.13
Sex Education	.03	.84
Intrapersonal EQ	.02	.87

\*  $p < .05$

Table 7

*Standardized Coefficients from Regression Analysis Predicting Stress Management Emotional Intelligence from Risky Sexual Behaviors and Control Variables*

Variable	$\beta$	$p$
Academic Achievement	-.09	.49
Family Structure	-.15	.29
Parent Education	.08	.60
Delinquency	.42	.01*
Religiosity	-.26	.06
Sex Education	.04	.80
Stress Management EQ	-.21	.14

\*  $p < .05$

Table 8

*Standardized Coefficients from Regression Analysis Predicting Adaptability Emotional Intelligence from Risky Sexual Behaviors and Control Variables*

Variable	$\beta$	$p$
Academic Achievement	-.09	.51
Family Structure	-.19	.19
Parent Education	.06	.69
Delinquency	.44	.01*
Religiosity	-.21	.12
Sex Education	.02	.89
Adaptability EQ	.03	.82

\*  $p < .05$

Table 9

*Standardized Coefficients from Regression Analysis Predicting Interpersonal Emotional Intelligence from Risky Sexual Behaviors and Control Variables*

Variable	$\beta$	$p$
Academic Achievement	-.15	.28
Family Structure	-.23	.09
Parent Education	.09	.52
Delinquency	.38	.01*
Religiosity	-.12	.39
Sex Education	.03	.83
Interpersonal EQ	-.30	.04*

\*  $p < .05$

Although statistical significance was found in some of the regression relationships, the inability to achieve A priori sample size, post-hoc power and effect size were analyzed in the Interpersonal EQ regression model (see Table 10). The total model had a large effect size and moderate power (Partial Eta Squared = .82, Observed Power = .47). Additionally, the effect size of Interpersonal EQ is large with low power (Partial Eta Squared = .73, Observed Power = .34), indicating that this study requires fewer participants than initially expected to have powerful results. The resulting post-hoc power suggests that there is a 34% possibility of correctly rejecting the null hypothesis. The variable with the strongest power is Religiosity (Observed Power = .59). The remaining variables of Academic Achievement, Family Structure, Parent Education, Delinquency, and Participation in Sex Education have statistically low to moderate effect sizes (Partial Eta Squared ranging from .001 to .12) and power (Observed Power ranging from .05 to .21).

Table 10

*Power and Effect Sizes for Variables in the Regression Model Measuring Interpersonal EQ, Control Variables, and Risky Sexual Behaviors*

Variable	Partial Eta Squared	Observed Power
Regression Model	.82	.47
Academic Achievement	.02	.07
Family Structure	.001	.05
Parent Education	.12	.21
Delinquency	.08	.14
Religiosity	.35	.59
Participation in Sex Ed	.05	.11
Interpersonal EQ	.73	.34

Possible multicollinearity problems in the Interpersonal EQ regression model are minimal. The Tolerance and Variance Inflation Factors are included in Table 11. The percent of variance in each independent variable cannot be accounted for by other predictors, as indicated by moderate to large tolerance statistics (ranging from 0.468 to 0.915). There is no further support that multicollinearity problems exists, as the strength of the variance inflation factors are quite low (ranging from 1.092 to 2.136).

Table 11

*Colinearity Statistics of Major Study Variables for the Regression Regarding Interpersonal EQ*

Independent Variables	Colinearity Statistics	
	Tolerance	VIF
Academic Achievement	.68	1.47
Family Structure	.90	1.12
Parent Education	.79	1.26
Delinquency	.52	1.93
Religiosity	.92	1.09
Sex Education	.78	1.29
Interpersonal EQ	.82	1.22

## Chapter 4

### Discussion

#### Summary

The American education system's focus is to *educate*... to teach reading, writing, and arithmetic. The system also holds the responsibility of developing and fostering social competence, moral character, and personal health to be able to introduce civic adults into society (Greenberg, et al., 2003). In the early 1980's, sex education was introduced into schools as unwanted teenage pregnancies and the spread of sexually transmitted diseases consistently resulted in poor life outcomes in adulthood (Ebscohost, n.d.). Despite research supporting comprehensive sex education, there continues to be disparate person views on sex education in schools (Family Health International, 1997; The Henry J. Kaiser Family Foundation, 2002).

The study of social and emotional intelligences has been studied throughout the past century (Thorndike, 1920). Research contends that stronger social-emotional intelligence results in a myriad of positive life effects (BarOn, 2007; Brackett, et. al, 2006; Goleman, 1995; Nelson, et al., 2007). Previous research has suggested that social-emotional skills can be taught (Devaney, O'Brien, Tavegia, & Resnik, 2006; Hindes, Thorne, Schwean, & McKeogh, 2008; Six Seconds, 2011). Therefore, implementing social-emotional training in education programs may increase the possibility of creating healthy, productive, and successful adults (BarOn, 2006; Goleman, 1995). This current research links social-emotional skills and sex education.

This study examined the relationship between risky sexual behaviors in adolescents and social-emotional intelligence in order to guide future programming and training on social and sexual behavior. The research included related variables that included academic achievement, family structure, parent education, delinquency, religiosity, substance use, and participation in

sex education. Substance Use was not included in the final model, as it violated three regression assumptions.

Significant correlations were revealed between RSBs and Family Structure, Delinquency, Total EQ, Interpersonal EQ, and Stress Management EQ. Contrary to prior research, this study demonstrated no notable relationships between RSBs and the control variables: academic achievement, parent education, religiosity, and participation in sex education. Correlations between RSBs and a couple of aspects of social-emotional intelligence did not support the research hypothesis. There were no significant correlations between RSBs and Intrapersonal and Adaptability EQ.

When examining the relationship of these variables in regression models, two significant relationships were demonstrated. Delinquency and Interpersonal EQ were the only variables identified as significant predictors of RBS. Delinquency was the strongest predictor in each regression model. Therefore, participants in this sample who were less likely to engage in law-breaking or aggressive behaviors were significantly less likely to engage in sexual risk-taking. In adolescence, individuals need to learn to develop empathy for others and to develop appropriate conflict resolution skills. Within these broad areas are basic social-emotional skills such as identifying other people's expression of emotions (APA, 2002). Therefore, adolescents who struggle to do so (i.e., have limited social-emotional intelligence), may engage in delinquent behavior in order to cope with or solve social dilemmas (e.g., physically assaulting a peer with whom they had a disagreement with). Delinquent behavior can be described as behaviors that break legal rules or social norms (Gillmore, Lewis, Lohr, Spencer, & White, 1997). As previously described, adolescence is a time of significant risk taking. This is strongly related to perceived invulnerabilities (APA, 2002; Elkind, 1985). Therefore, just as a teenage may think to

themselves “I won’t get AIDS.”, they may also think to themselves “I won’t get caught drawing this graffiti.” Adolescents can be perceived to break rules frequently. Results of the recent study suggest that those that do are also more likely to engage in sexual behavior that put them at risk for disease or unwanted pregnancy.

Interpersonal intelligence was the second strongest predictor of RSBs, partially supporting the research hypothesis. Therefore, adolescents in this study who had stronger interpersonal skills and abilities and had less involvement in RSBs. Interpersonal abilities may protect teenagers from sexual risk-taking. The interpersonal component of social-emotional intelligence allows individuals to respond appropriately in social situations (BarOn, 2007). It involves empathy, social responsibility, and engagement in interpersonal relationships. Therefore, interpersonal skills are more concerned with external variables... feeling for others and engaging with others. Sex behavior is an example of interpersonal activity.

According to Elkind (1985), adolescents commonly create personal fables, believing that they unique and unlike their peers. It could be possible that most teenagers will learn and focus primarily on their internal emotions and their own responses to the world with less focus on how these responses impact others or their relationships with others (i.e., intrapersonal aspects). Therefore, those who are less adept at social-emotional encounters with others would be more likely to engage in dating behavior that fails to incorporate communication and mutual dependence, and are thus more likely to engage in risky sexual behavior.

Interpersonal skills have been shown to be important for other components of sexual behavior (Kearns & Calhoun, 2010). For example, women are more likely to have ongoing histories of sexual victimization if they have limited interpersonal functioning. A group of adolescent males who reported to have committed sexual victimization, also reported that it was

difficult for them to communicate effectively with their sexual partners. These encounters included discussions of safe sex and declining sexual advances.

The Interpersonal EQ scale had a large effect size suggesting that there is a notably strong relationship between Interpersonal EQ and Risky Sexual Behavior in this study. Although the effect size for Interpersonal EQ is large, the resulting power was low. Therefore, as to be later discussed, while the significant relationship found in the data is meaningful for this group of participants, the results are difficult to generalize to the greater population.

### **Implications**

As this study demonstrates, interpersonal skills may be important protectors from RSBs. When communication skills and negotiation with partners were directly taught, in combination with information about condom use, adolescents' sexual risk reduced in one study (Johnson, Carey, Marsh, Levin, & Scott-Sheldon, 2003). This is consistent with other studies of interpersonal skills training and sexual behavior. Schinke and Gilchrist (2008) found that directly teaching interpersonal skills helps improve appropriate sexual and contraceptive behavior.

Adolescents who take part in socially-geared programs have shown improvement in many skill areas and a decrease in risky behaviors. The Teen Leadership Program (TLP) is one such program that integrates self-control skills, self-satisfaction skills, self-actualization skills, interpersonal skills, and intrapersonal skills to increase emotional intelligence (Hindes et al., 2008). The treatment group scored significantly higher than the control group on total EQ and all subscale scores of the BarOn EQ-I YV.

The Child Development Program is another example of successful social-emotional based education (Devaney, et al., 2006). While directly teaching social-emotional intelligence,

the program permeates all aspects of school culture including friendship, responsibility, respect, and kindness. Its early success in pilot sessions prompted the state of Illinois to pass the Children's Mental Health Act in 2003 requiring school districts to implement social and emotional learning standards. Other programs, too, have received national recognition. Six Seconds is a non-profit organization whose mission is to build emotional intelligence. The program has received two federal blue ribbons for excellence in education (Six Seconds, 2011). In fact, most school-based prevention programs are notably more effective when they systematically include social and emotional competencies (W.T. Grant Consortium, 1992). With such success in multiple areas of education, social-emotional intelligence should also be an important element when teaching youth about sex.

Additionally, when adolescents are exposed to sex education that include structured classroom content about interpersonal relationships, the risks of teen pregnancy are significantly reduced (Allen, Philliber, Herrling, & Kupermine, 1997). The Teen Outreach Program is a national program that utilizes specific instruction, discussion, and community service to teach sex education. In 25 sites including students grades 9 through 12 (N = 342) students that completed the Teen Outreach Program were 41% less likely to be effected by teen pregnancy than those in the control group. This study suggests, and the current study supports, that strictly direct teaching of facts is not as effective as also introducing honest discussion about relationships.

### **Limitations**

Although this study revealed important relationships between areas of social-emotional intelligence and adolescent behavior, it had several weaknesses. First, while the results are meaningful for the sample studied, they are difficult to generalize to the greater population. Of

800 students solicited, only 49 participated. These teens were from only two schools in rural upstate New York that were about 30 miles apart. One high school in particular, was located in an affluent community. This was illustrated in some of the demographic and control variables analyzed. The students had low rates of risk taking behaviors (e.g., delinquency and substance use), had well educated parents from in-tact homes, and tended to have very high grades. It is possible that adolescents with these traits are those more likely to participate in research studies.

Despite having a small, homogenous sample, the study was able to demonstrate statistical significance. With larger differentiated sample, the study could hold stronger power and results that were approaching significance (e.g. the relationship between Stress Management EQ and risky sexual behaviors) may become significant. Future research should include more individuals from various geographic areas and cultural backgrounds. More participants (ideally 10 individuals per variable) could result in more stable and accurate results.

The second limitation was the tendency for students to score very low on items measuring alcohol and drug use. The Substance Use variable violated three assumptions of regression. It did not have a linear relationship with risky sexual behavior, resulting in a skewed and scattered pattern. As risky sexual behavior increased, the inconsistency in scores of substance use significantly increased. Future researchers would need to ensure a streamlined method of measuring this variable through improved scales with less range of scores. Another alternative would be to complete curvilinear regression analysis to determine if and how non-linear relationships exist.

Future research will also need to demonstrate that by increasing interpersonal skills, adolescents can reduce sexual risk taking. Longitudinal studies could be invaluable in this area. Researchers may seek to follow children through early adulthood. One group would receive

interpersonal skill training with focus on social-sexual encounters. The other group would serve as a control. Levels of interpersonal skills and abilities would be measured over time. When participants reach early adulthood, researchers could compare the treatment and control group by measuring engagement in RSBs and the detrimental results of RSBs including contraction of sexually transmitted diseases and unwanted pregnancies. Ongoing research is required to support the need for the formal development and implementation of sex education curriculum with overt training in interpersonal skills and other related EI variables. Future studies are needed to identify the skills and abilities necessary for adolescents to make safe sexual decisions.

### **Barriers**

The difficulties obtaining participants was likely due to the nature of the variables being investigated. The first barrier to collecting data resided in the organizations. Schools and agencies were still resistant to allow researchers into their institutions to collect data or discuss historically uncomfortable or secretive variables. In total, 8% of solicited organizations agreed to participate.

Recent legislation such as No Child Left Behind, is pressing educators to focus on content training and testing (Devaney, et al., 2006). While research is in support of social-emotional education, the American education system continues to fall behind in standard academics. Schools "...feel they must choose between teaching content and teaching character... between preparing for high stakes tests or preparing for the high stakes tasks of learning to cooperate with peers, avoiding risk taking behaviors, and engaging in positive civic activities" (pp. 1-2).

The stigma of sex education may still be permeating American schools. Reminiscent of federal legislation, New York State includes little mention of sex education standards in the state

education regulations. Chapter 11 of the Regulations of the Commissioner (Regulations of the Commissioner, 2009) states that all schools must provide instruction concerning AIDS as part of health courses in grades 8 to 12.

Such instruction shall be designed to provide accurate information to pupils concerning the nature of the disease, methods of transmission, and methods of prevention; shall stress abstinence as the most appropriate and effective premarital protection against AIDS, and shall be age appropriate and consistent with community values. No pupil shall be required to receive instruction concerning the methods of prevention of AIDS if the parent or legal guardian of such pupil has filed with the principal of the school which the pupil attends a written request that the pupil not participate in such instruction, with an assurance that the pupil will receive such instruction at home. . . . Each board of education or trustees shall determine the content of the curriculum and approve its implementation and shall be responsible for the evaluation of the district's AIDS instruction program.

(p.4)

In sum, the regulations are neither requiring nor encouraging a social-emotional component, nor a standard for curriculum in the New York state regulations. The focus is not on sex as a behavior, but on a medical model – a disease that can be contracted sexually. Undoubtedly, however, the education system has come far in the battle against unwanted pregnancies and STDs. A news article from the Milwaukee Journal (Merida, 1982), reports that a teacher in 1957 was fired for discussing sex in her class.

The second barrier to collecting data resided in the consent givers (i.e., guardians and parents). Of all the consent forms distributed, there was only a 6% response rate. Students themselves want more sex education. Forty percent of students surveyed in one study wanted

more information about contraceptives and how to handle the social pressures to engage in sexual activity (Benson, Scales, & Roehikepartain, 1999). A similar proportion of students reported that these topics were not completely covered in their most recent school-based sex education experience. In addition to expanding sex education, adolescents also recognize the increased need for social and emotional training. Seventy-one percent surveyed admitted that they do not think through the consequences of their behaviors (i.e., forward thinking and future planning). In the current study, students were rewarded with a candy bar for returning a consent form and were able to win an iPod or iTunes gift card for participation. Therefore, it can be theorized that teenagers wanted to participate. However, their parents were noncompliant.

Parent attitudes about sex tend to predict how they will communicate with their children about sex (Raffalli, Bogenschnieher, & Flood, 1998). It can thus be hypothesized that parents whose attitudes about sex are reserved, naïve, or disenchanting (e.g., “My son doesn’t/won’t have sex”) were less likely to be open to sexual dialogue or sexual content involving their adolescent child. Parents who received the consent forms for participation that listed sexual behavior as one of the variables being explored and who also had negative or passive sexual attitudes were probably less likely to consent to their child’s participation.

As some schools become more progressive in sex education, many parents are still resistant. In America, 18% of parents believed that sex education in schools should be abstinence only (Dailard, 2001). This statistic varies in areas of the country where the south has the overwhelming proportion of abstinence-only proponents. The northwest appears to have the most liberal views, in favor of comprehensive education. Consequently, 9 in 10 teachers support comprehensive sex education but are told not to teach it by their districts. Therefore despite research supporting the need for comprehensive sex education and student desire to learn related

knowledge, schools and caregivers alike have disparate morals and views on whether to teach sex education and how.

### **Conclusion**

Researching sexual behavior can be a daunting task, with confounding difficulty when studying such behavior in teenagers. The current study is among the first to demonstrate a direct relationship between aspects of social-emotional intelligence and sexual risk taking. If future research could expand and validate these findings, social and emotional skills can be accepted as imperative lessons in sex education. With improved sex education curricula, risky sexual behavior, and thus negative outcomes of pregnancy and infection, could be reduced. Such improvements could eventually diminish the pervasive apprehension about adolescent sexual behavior.

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## Appendices

### Appendix A

#### *Adolescent Behavior Questionnaire*

Please answer some questions about yourself by filling in or circling your answers to the following questions:

1. Sex:     Male           Female
  
2. Date of Birth: \_\_\_\_\_
  
3. Current Grade in School: \_\_\_\_\_
  
4. Who do you live with?
  - a) Both parents
  - b) One parent
  - c) One parent and a step-parent
  - d) Other \_\_\_\_\_
  
5. What is the highest level of your mother's education?
  - a) Some high school
  - b) Completed high school
  - c) Some college
  - d) Graduated college
  - e) Advanced degree
  
6. What is the highest level of your father's education?
  - a) Some high school
  - b) Completed high school
  - c) Some college
  - d) Graduated college
  - e) Advanced degree
  
7. How many times have you been suspended or expelled from school? (Gilmore et al., 1997)
  - a) Never
  - b) 1-3 times
  - c) 4-7 times
  - d) 7-10 times
  - e) More than 10 times
  
8. What is your GPA (Grade Point Average) in school? \_\_\_\_\_

- \* 9. What is your sexual orientation
- Heterosexual
  - Homosexual
  - Bisexual
- \* 10. How many peers, other than you, are in your group of friends?
- 1
  - 2
  - 3
  - 4
  - 5 or more (5+)
- \* 11. Have you participated in any school program related to drug and alcohol use?
- No
  - Yes
12. Have you participated in a school-based sex education class?
- No
  - Yes
13. How often in the last 12 months have you engage in the following behaviors? (Harden et al., 2008)

Paint Graffiti	Never	1-2 Times	3-4 Times	5 or more Times
Deliberately damage some else's property	Never	1-2 Times	3-4 Times	5 or more Times
Steal something worth more than \$50	Never	1-2 Times	3-4 Times	5 or more Times
Steal something less than \$50	Never	1-2 Times	3-4 Times	5 or more Times
Sell marijuana or other drugs	Never	1-2 Times	3-4 Times	5 or more Times

14. During your life, how many times have you used or tried the following pills or medicines without a doctor's order? (to get "high" or "stoned") (Citizens Advocating Safe and Healthy Youth, 2009)

Prescription painkiller Vicodin	Never	1 Time	2 Times	3 Times	4 to 10 Times	More than 10 times
Prescription painkiller OxyContin	Never	1 Time	2 Times	3 Times	4 to 10 Times	More than 10 times
Ritalin or Adderall	Never	1 Time	2 Times	3 Times	4 to 10 Times	More than 10 times
Any other prescription drug – used to get "high"	Never	1 Time	2 Times	3 Times	4 to 10 Times	More than 10 times
Cough/Cold Medicines – used to get "high"	Never	1 Time	2 Times	3 Times	4 to 10 Times	More than 10 times
Any other Over-the-Counter Medicine – used to get "high"	Never	1 Time	2 Times	3 Times	4 to 10 Times	More than 10 times

15. About how often do you pray? (Association of Religious Data Archives, 1998)

- a) Never
- b) Less than once a year
- c) Once a year
- d) Several times a year
- e) Once a month
- f) Two to three times a month
- g) Nearly every week
- h) Every week
- i) More than once a week

16. During your life, how many times have you used or tried the following substances? (Citizens Advocating Safe and Healthy Youth, 2009)

	Never	1 Time	2 Times	3 Times	4 to 10 Times	More than 10 times
Smoked a whole cigarette	Never	1 Time	2 Times	3 Times	4 to 10 Times	More than 10 times
Smoked "Hookah" (any "tobacco" smoked through a water pipe)	Never	1 Time	2 Times	3 Times	4 to 10 Times	More than 10 times
Inhaled a substance to get high (examples: aerosol sprays, glue)	Never	1 Time	2 Times	3 Times	4 to 10 Times	More than 10 times
Marijuana	Never	1 Time	2 Times	3 Times	4 to 10 Times	More than 10 times
Ecstasy	Never	1 Time	2 Times	3 Times	4 to 10 Times	More than 10 times
Cocaine (or crack)	Never	1 Time	2 Times	3 Times	4 to 10 Times	More than 10 times
Methamphetamine (meth, speed, crank)	Never	1 Time	2 Times	3 Times	4 to 10 Times	More than 10 times
LSD (acid)	Never	1 Time	2 Times	3 Times	4 to 10 Times	More than 10 times
GHB (date rape drug)	Never	1 Time	2 Times	3 Times	4 to 10 Times	More than 10 times
Mushrooms	Never	1 Time	2 Times	3 Times	4 to 10 Times	More than 10 times

\* 17. How many school-sponsored clubs and/or sports do you participate in?

- a) 0
- b) 1
- c) 2
- d) 3
- e) 4 or more (4+)

18. Which one statement comes closest to your personal beliefs about God? (Association of Religious Data Archives, 1998)

- a) I am an atheist
- b) I don't know and there is no way to find out
- c) I believe in a higher power or cosmic force
- d) I sometimes believe in God
- e) I believe in God, but with some doubts
- f) I have no doubts that God exists

19. How old were you when you first had sexual intercourse? (Greenburg et al., 1994)
- a) 10 to 14
  - b) 15 to 16
  - c) 17 to 18
  - d) Not applicable (I have not yet had sex)
- \* 20. How often do you engage in activities just with your family?
- a) Once a year or less
  - b) Once a month
  - c) Once a week
  - d) More than once a week
21. Would you call yourself a strong member of a religious denomination? (Association of Religious Data Archives, 1998)
- a) No religion
  - b) Somewhat strong
  - c) Not very strong
  - d) Strong
22. How many sexual partners have you had? (Sienbenbruner et al., 2007)
- a) Zero (0)
  - b) One (1)
  - c) Two to Five (2-5)
  - d) Six to Ten (6-10)
  - e) More than Ten (>10)
- \* 23. How often do you do community service (volunteer)?
- a) Once a week or more
  - b) Twice a month
  - c) Once a month
  - d) Less than once a month
  - e) Almost never
- \* 24. What are you most likely to do on a typical afternoon after school?
- a) Stay longer for meetings/sports practice/other extracurricular activities
  - b) Go home and work on homework
  - c) Go home and relax
  - d) Go out with friends
  - e) Volunteer in the community

25. How often do you attend religious services? (Association of Religious Data Archives, 1998)
- Never
  - Once a month
  - Less than once a week
  - Once a week
  - Several times a week
  - Once a day
  - Several time a day
26. How often have you engaged in sexual intercourse in the past year, that is, how many different times? (Capaldi et al., 2002)
- Zero
  - One (1)
  - Two (2)
  - Three (3)
  - Four (4)
  - Five to Ten (5-10)
  - Eleven to Twenty (11-20)
  - Twenty one to forty (21-40)
  - Forty one or more (41+)
27. How many times have you ever been drunk? (Citizens Advocating Safe and Healthy Youth, 2009)
- Never
  - 1 time
  - 2 times
  - 3 times
  - 4-10 times
  - More than 11 times
- \* 28. How many hours per week do you spend completing academic work at home (homework)?
- Less than one
  - One – Two
  - Three – Four
  - Five – Six
  - Seven or more
  - Five or more
29. When engaging in sexual intercourse, how often do you make sure that some type of birth control or contraception is used by you or the other person? (Bryan & Stallings, 2002)
- Not Applicable (I do not engage in sexual intercourse)
  - Almost Always
  - Often
  - Rarely
  - Hardly Ever

- \* 30. On average, how often are you driving or are a passenger in a vehicle with only peers?
- a) 0-1 times per week
  - b) 2-3 times per week
  - c) 3-4 times per week
  - d) 5-6 times per week
  - e) Every day

\* *Distracter Items*

## Appendix B

### *Risky Sexual Behavior Questionnaire Scoring Protocol*

- Items 9, 10, 11, 17, 20, 23, 24, 28, and 30 served as distracter items on this questionnaire and will therefore, not be scored.
- Items 1, 2, and 3 served as descriptive data
- Item 4 measured the control variable, Family Structure  
Response A is scored 1 for an intact family  
Responses B through D are each scored 0 for a non-intact family
- Items 5 and 6 measured the control variable, Parent Education  
A = 0  
B = 1  
C = 2  
D = 3  
E = 4  
Scores for items five and six were added together to get a total Parent Education score. Thus, the lowest score possible is two, while the highest is eight. Higher scores indicate higher level of parent education.
- Item 12 measured the control variable, participation in Sex Education.  
A = 0  
B = 1
- Items 7 and 13 measure the control variable, Delinquent Behavior. These items were measured on different Likert scales. Therefore, each of the following points values were averaged on a five-point scale—the largest of the group. Each number of points were evenly calculated to ensure the lowest point would be zero and the highest would be four.  
For item 7,  
A= 0 points  
B= 1  
C= 2  
D= 3  
E= 4  
For item 13,  
Never= 0 points  
1-2 times = 1.33  
3-4 times = 2.66  
5 or more times = 4  
Item 13 is composed of five separate questions. The points for each question were added together for a total score for item 13. Therefore, the lowest possible score for item 13 is 0 whereas the highest possible score is 20. The total score for item 13 was added to the

score for item 7. The range, then, for item 7 is 0-24. A higher number here indicates a higher level of delinquent behavior.

- Item 8 measures the control variable, Academic Achievement  
A higher number here indicates greater academic achievement
- Items 14, 16, and 27 measure the control variable, Drug and Alcohol Use

For these items;

Never = 0 points  
 1 Time = 1  
 2 Times = 2  
 3 Times = 3  
 4 to 10 Times = 4  
 11 or more Times = 5

Item 16 is composed of ten questions. The points for each question were added together for a score for item 16. Therefore, the lowest possible score would be zero and the highest possible score would be 50. On the other hand, item 14 is composed of six questions. The points for each question were added together for a score for item 14. Therefore, the lowest possible score would be zero and the highest possible score would be 30. Lastly, item 25 could have a lowest possible score of zero and a highest possible score of 5. The scores for items 14, 16, and 27 were added together for a total substance use score. The range for this score is zero to 85. Higher scores indicate more drug and alcohol use.

- Items 15, 18, 21, and 25 measure the control variable, Religiosity. Each of these items are rated on a different likert scale. The original researchers developed and utilized these items to simply gather descriptive statistical data on a population. Therefore, each of the following points values were average based on a nine-point Likert scale—the largest of the group. Each number of points were evenly calculated to ensure the lowest point would be zero and the highest points would be eight, as it is designed in item 15 (the nine-point scale).

For item 15;

A = 0 points  
 B = 1  
 C = 2  
 D = 3  
 E = 4  
 F = 5  
 G = 6  
 H = 7  
 I = 8

For item 18;

A = 0 points

B = 1.58

C = 3.16

D = 4.75

E = 6.32

F = 8

For item 21;

A = 0 points

B = 2.67

C = 5.33

D = 8

For item 25;

A = 0 points

B = 1.33

C = 2.66

D = 4

E = 5.32

F = 6.65

G = 8

Points for each of the items were added together for a total Religiosity score. The lowest possible score is zero, and the highest is 32. Higher scores indicate higher religiosity.

- Finally, items 19, 22, 26, and 29 measure the criterion variable, Risky Sexual Behaviors. Each of these items were rated on a different likert scale. These questions have been derived from different research studies. Therefore, each of the following points values were average based on a seven-point likert scale—the largest of the group. Each number of points were evenly calculated to ensure the lowest point would be zero and the highest points would be six, as it is designed in item 26 (the nine-point scale).

For item 19;

A = 8 points

B = 5.33

C = 2.67

D = 0

For items 22 and 29;

A = 0 points

B = 2

C = 4

D = 6

E = 8

For item 26;

A = 0 points

B = 1

C = 2

D = 3

E = 4

F = 5

G = 6

H = 7

I = 8

Points for each of the items will be added together for a total RSB score. The lowest possible score is zero, and the highest is 24. Higher scores indicate greater RSBs.

## Appendix C

*BarOn EQ-i: YV Short Form Scales and the Skills Assessed*

Scale	Description
<b>Intrapersonal</b>	Overall self-awareness and self-expression
Self-Regard	Ability to accurately perceive, understand and accept oneself
Emotional Self-Awareness	Awareness and understanding of one's own emotions
Assertiveness	Ability to effectively and constructively express one's own emotions
Independence	Ability to be self-reliant and free of emotional dependency on others
Self-Actualization	Ability to strive for and achieve personal goals
<b>Interpersonal</b>	Overall social awareness and interpersonal relationship
Empathy	Aware and understanding of how others feel
Social Responsibility	Ability to identify and cooperate with a social group
Interpersonal Relationship	Ability to establish mutually satisfying relationships and relate well with others
<b>Stress Management</b>	Overall emotional management and regulation
Stress Tolerance	Ability to effectively manage emotions.
Impulse Control	Ability to effectively control emotions.
<b>Adaptability</b>	Overall management of change
Reality-Testing	Ability to objectively validate one's thoughts and feelings with reality
Flexibility	Ability to adapt one's thoughts and emotions to new situations
Problem-Solving	Ability to solve personal and interpersonal problems

*Note:* From "BarOn Emotional Quotient Inventory- EQ-I," by the Consortium for Research on Emotional Intelligence in Organizations, 2008, Retrieved March 2, 2009 from <http://www.eiconsortium.org/measures/eqi.html>.

## Appendix D

*Internal Reliability Coefficients for BarOn EQ-i: YV: Short Form*

Gender	Scale	Age Range	
		13-15 yrs	16-18 yrs
Male	Intrapersonal	0.81	0.83
	Interpersonal	0.77	0.77
	Adaptability	0.86	0.87
	Stress Management	0.84	0.86
	Total EQ	0.84	0.84
Females	Intrapersonal	0.82	0.87
	Interpersonal	0.73	0.75
	Adaptability	0.85	0.87
	Stress Management	0.84	0.86
	Total EQ	0.85	0.84

## Appendix E

*Test-retest Reliability for BarOn EQ-i: YV: Short Form*

Scale	Coefficient
Intrapersonal	0.84
Interpersonal	0.81
Adaptability	0.85
Stress Management	0.88
Total EQ	0.87

## Appendix F

*Intercorrelational Validity for BarOn EQ-i: YV: Short Form*

Scales					
	<u>Intrapersonal</u>	<u>Interpersonal</u>	<u>Adaptability</u>	<u>Stress Management</u>	<u>Total EQ</u>
Intrapersonal		0.24	0.28	0.23	0.67
Interpersonal	0.26		0.39	0.19	0.64
Adaptability	0.26	0.37		0.17	0.68
Stress Management	0.26	0.19	0.16		0.64
Total EQ	0.69	0.63	0.66	0.66	

*Note:* Tables from “BarOn Emotional Quotient Inventory: Youth Version: Technical Manual” by R. BarOn and J. Parker, 2008.

### **Biographical Data**

Rose Wozniak graduated with her Bachelor of Arts in Psychology from the State University of New York at Oneonta. She attended Alfred University for graduate studies, completing her Master's Degree and Certificate of Advanced Study in School Psychology in 2008. With a wide range of professional experiences, Rose has had the opportunity to work with families, special education students, dually-diagnosed adolescents in residential facilities, and academic consultants. Rose currently works as the Behavior Intervention Coordinator at the Arc of Steuben in Bath, NY. She lives with her fiancé in Hector, NY.