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Reckless behaviour and sexual practices of emerging adult women

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ABSTRACT

Relations between reckless behaviour and sexual practices of emerging adult women (ages 18-25) within a social cognitive theoretical perspective were examined. In addition, relations between self esteem, sexual attitudes and sexual behaviour were also examined. The Sexual Experience Inventory, Rosenberg Self-Esteem Scale, Hendrick Sexual Attitude Scale, and the Reckless Behaviour Questionnaire were administered to 364 undergraduate college women with a mean age of 19.8 years. With implications for further research and health education, findings indicated that emerging adult women engaged in a broad range of sexual behaviour that was predicted by the level of their reckless behaviour and sexual attitudes including sexual practices and permissiveness.

INTRODUCTION

Sexually transmitted infections (STIs) are a major global cause of acute illness, infertility, long-term disability and death (World Health Organisation, 2008). STIs increase the risk of HIV transmissions, infection with the human papillomavirus (HPV) which is a proven precondition for the development of carcinoma of the cervix, and is the second leading cause of female cancer mortality worldwide. Internationally, adolescents and emerging adults (ages 18-25) are admittedly the most sexual active and most vulnerable to STIs and early pregnancy. Cross cultural comparisons show that the United States has the highest rates of adolescent pregnancy and childbearing in the developed world (Centers for Disease Control & Prevention, 2003). In addition, U. S. adolescent pregnancy rates are nearly four times the rates of France, Sweden, Germany, and Japan (Centers for Disease Control & Prevention, 2003).

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The U.S. Department of Health reports that over 45% of secondary students have had sexual intercourse before they enter colleges and universities (United States Department of Health and Human Services, 2008). American youth who have not experienced sexual intercourse in high schools will be under a great deal of pressure to engage in sexual activity as they enter university settings (Cooper, 2002). By the time these youth complete their university education, one in four will report that they have had six or more sexual partners and less than 38% will report using a condom during their last intercourse experience (Fields, 2002).

U. S. university campuses continue to provide an important context in which to study sexual behaviour of emerging adults between the ages of 18-25 (Arnett, 2007) and to stem the tide of increasing sexually transmitted disease among this age group. For example, when risk behaviours of youth are reported in the United States (see National Risk Behaviour Survey, Healthy Youth, 2007) sexual behaviour that contributes to unintended pregnancy and STDs, including HIV infection, is cited as one of ten most important risks to emerging adults. This type of behaviour often results in delayed on-set of AIDS in these individuals because the latency interval from HIV infection to the development of AIDS is several years (Prince & Bernard, 1998).

Reckless behaviour of youth has been defined as behaviours that incorporate strong associations of serious negative consequences, including personal injury or death, or other events that may have long term physical or emotional impact (Gullone et. al, 2000). According to Arnett (2007), young adults who engage in reckless behaviour (including unsafe sexual behaviour, alcohol use, speeding, drug use, etc.) may actually increase their self esteem through this kind of behaviour. If this is true, then emerging adults may be highly motivated to continue their involvement in such behaviour putting them at increasing risk over time. Although the propensity of young adults to engage in reckless behaviours has included high-risk sexual behaviours, there has been no clear empirical link to reckless behaviours, self-esteem or sexual attitudes. Moreover, the frequency of reckless behaviours, such as sex without contraception and sex with someone known only casually, has been higher in U.S. college students than among high school students (Arnett, 2007, Blake, et al., 2003).

Considering the importance of continuing health promotion for emerging adults in the United States and elsewhere, it seems critical that associations between reckless behaviour and the sexual practices of young adults be examined in detail. Many sexually active U. S. college students report not using a condom because they believed that their partner was safe from disease and they knew their partner's sexual history (Arnett, 2007; Civic, 1999) or believed that they could identify whether a partner was infected without objective evidence, i.e., believing that it was safe to engage in unprotected sex with their partner or assuming that their partner was not infected (Keller, 1993).

Among university students, women often underestimate their sexual risk taking behaviours in an attempt to protect their self-esteem and reduce the anxiety associated with engaging in high-risk behaviours (Kershaw et al., 2003). This implies a potential disconnect if one considers the disparity in having knowledge of the consequences involved in high-risk sexual behaviours and having the attitudes about sexuality that certain sexual behaviours are personally risky.

Social cognitive theory (Bandura, 1977; 1999) has frequently offered theoretical guidance for examining human behaviour and seems well suited to the examination of sexual behaviour of emerging adults. This perspective suggests that people learn how to behave in social situations by paying attention to the environment around them and reacting or responding to the environment and its stimuli. For example, Bandura proposed that behaviour change is influenced by environmental factors, personal factors, and attributes of behaviour itself. This interaction is referred to as reciprocal determinism, as each factor may affect or be affected by others. Moreover, Bandura noted that individuals can develop anticipatory responses to signaling stimuli based on what they are told about the experience without directly encountering it. In this case, emerging adults can become sexually aroused by seeing a sexual image or imagining a

sexual encounter, even if they have never actually experienced one. The assumption of expectancy is important, as one behaviour can be selected over another or escalated in frequency without direct reinforcement (Hogben & Dyrne, 1998). Also, reinforcement can be direct or vicarious. Merely observing others being reinforced for particular behaviours encourages the observer to engage in the same or similar behaviour (Bandura, 1999).

The continuum of expectancy relates to two important factors that are central to the model. Self-efficacy or one's beliefs in her competence to organize and implement the courses of action required to manage potential situations, is one of these factors. Locus of control is a second factor and relates to whether a person expects reinforcement to come from their own efforts (internal control) or from external factors (external control) such as fate, luck, or the power of others (Bandura, 1999; Krech, Crutchfield, Livson, Wilson, & Parducci, 1982).

Self-esteem relates to self-efficacy and locus of control, as self-esteem can be associated with one's perceived level of competency (self-efficacious thinking) in successfully carrying out the necessary behaviours and cognitions to produce a successful outcome (internal locus of control) (Becker, 2000). Expectations of personal mastery affect both induction and determination of behaviours. The strength of a person's assurance in their own effectiveness is apt to affect whether she participates in certain behaviours and within particular situations (Bandura, 1977; 1999).

However, a sense of perceived mastery alone may not be an accurate predictor of risky sexual Behaviour. People may misperceive the dangers of engaging in reckless behaviour, including high-risk sexual behaviours, as willfully admitting to engaging in self-destructive behaviour can jeopardize one's self-esteem and cause anxiety (Kershaw et al., 2003). To reduce the anxiety caused by engaging in high-risk behaviours that may lead to unwanted health consequences (i.e., STI's) and to protect self-esteem, young women might ignore information that implies her behaviour is risky (Kershaw et al., 2003). From a social cognitive perspective then, when young women engage in high-risk sexual behaviour with no negative consequences (i.e., pregnancy or contracting an STI), the behaviour is reinforced. It is further reinforced, vicariously, if the family or peer group also is engaging in these behaviours with no negative consequences.

Sexuality and its perceived rewards are a significant theme in the emerging adult culture (Arnett, 2007). Consequently, the pressure to engage in sexual behaviour for the perceived rewards (i.e., personal pleasure, social acceptance, etc.) without the counter balance of perceiving the potential negative consequences (i.e., unwanted pregnancy or STIs) can put many emerging adult women at risk. The purpose of this study was to examine relations between reckless behaviour, self esteem, sexual attitudes, and sexual behaviour of emerging adult women within a social cognitive theoretical perspective. Based on previous literature, the following research questions were generated for this study:

1. What are relations between self esteem, sexual attitudes and sexual behaviours of emerging adult women?
2. To what extent do reckless behaviours of emerging adult women predict their sexual behaviours?

METHODS

Participants

The sample of emerging adult women for this study was drawn from undergraduate students in a southeastern university who were enrolled in a general studies course. Three hundred sixty four undergraduates agreed to participate in the study out of 379 students who were invited. This yielded a response rate of 96%. The mean age of the sample (n = 364) was 19.8 years old (SD =

Table 1: Demographic Data

Variables:	Number	%
Age		
18-19	209	58
20-21	99	57
22-23	41	11
24>	15	4
Race		
White	258	71
Black	54	15
Hispanic/Latino	39	11
Asian	6	2
Other	1	1
Class		
Freshman	132	36
Sophomore	122	34
Junior	81	22
Senior	29	8
Status		
Married	14	4
Divorced	5	1
Single	344	95
Family Income		
< $25,000	35	10
< $50,000	51	14
> $50,000	265	72
No Response	13	4
Family Type		
Nuclear Family	257	71
Single Parent	57	15
Stepfamily	50	14
Community		
Metropolitan	119	33
Urban	80	22
Suburban	105	29
Rural	60	16

1.74); the range was 18-30 years with 96.4 % of the sample under age 23. See Table 1 for demographic information.

To determine socio-economic status of participants, they were asked to estimate their family's annual income. The majority reported that their parent's annual income was $55,000 or over. The two-parent, continuously married family was reported most often as the type of family in which they were raised. Most of the sample was from metropolitan (> 100,000 pop.) and suburban (25,000-49,000 pop.) areas.

Measures

The four measures used in this study included: (a) Brady and Levitt's (1965) Sexual Experience Inventory, (b) Rosenberg Self-Esteem Scale (Rosenberg, 1979), (c) Hendrick Sexual

Attitude Scale (Hendrick & Hendrick, 1987), and (d) Reckless Behaviour Questionnaire (Arnett, 1994, 1996).

Sexual Experience Inventory. Sexual behaviour was assessed using the Sexual Experience Inventory (Brady & Levitt, 1965). The original Guttman-type questionnaire contained 16 items including both heterosexual and homosexual behaviours. Respondents answered by checking whether they had experienced the activities in life, during the last 5 years, or never. The coefficient of reproducibility reported by Brady and Levitt, 1965) was .97.

The Sexual Experience Inventory has been used with both men and women (Istvan, 1983) and women only samples (Giles, 1997). To obtain a more comprehensive depiction of female sexual behaviour, questions on the revised 21 item SEI were expanded to include same-sex and opposite-sex activities for women. A 5-item frequency scale (never, rarely, sometimes, often, and very often) was used for this sample. The range of possible scores was 21 to 105. Higher total scores indicated more frequent sexual behaviour. To test internal consistency and stability of the changed items, the inventory was given to 27 female undergraduate students in a basic studies course at a southern state university. The Cronbach alpha for the scale in this study was .84.

Rosenberg Self-Esteem Scale. Self esteem was measured using the Rosenberg Self-Esteem Scale (Corcoran & Fischer, 2000; Rosenberg, 1979). This scale has been used in research including: sexual attitudes (Miller, Christensen, & Olson, 1987), relationship with parents (Arnett, 2007), perceived sexual risk and risky sexual practices (Kershaw et al., 2003), and sexual knowledge and sexual practice (Hollar & Snizek, 1996). The scale is a 10-item Guttman scale with one dimension that has been used with a wide range of groups, including high school youth, and college students. Respondents were asked to denote the degree to which they agree or disagree with each statement (strongly agree; agree; disagree; strongly disagree). The scale was scored by totaling the individual 4-point items after reverse scoring the negatively worded items. Lower scores indicated higher levels of self-esteem. The Cronbach alpha for this scale was .92.

Hendrick Sexual Attitude Scale. Sexual attitudes were assessed using the Hendrick Sexual Attitude Scale (Hendrick & Hendrick, 1987). This 43-item instrument measures four attitudes of sexuality: (a) permissiveness, (b) sexual practices, (c) communion in the relationship, and (d) instrumentality. It is a 5-point, Likert-style scale. Respondents are asked to indicate the degree to which they agreed or disagreed with each statement. Subscale scores were calculated by dividing the number of items in each subscale by the sum of the subscale items. Lower scores on this scale indicates more permissive sexual attitudes The Permissiveness subscale includes such items as "Casual sex is permissible," "I would like to have sex with many partners," and "Sex without love is meaningless." The Sexual Practices subscale includes seven items, such as "Birth control is part of responsible sex," "Masturbation is alright," and "Sex education is important for young people." The Communion in the Relationship subscale includes such items as "At its best, sex seems to be the merging of two souls," and Sex is the closest form of communication between two people." The Instrumentality subscale includes such items as "The main purpose of sex is to enjoy oneself," and "Sex is primarily physical."

Test-re-test reliability was reported by Corcoran and Fischer (2000) as .88, .80, .67, and .66 respectively. Corcoran and Fischer found that scores on each subscale correlate with other measures of sex, love, and sensation seeking implying good concurrent validity. Criterion validity has been substantiated through examination of relationships with the Sexual Attitudes Scale, the Sexual Opinion Survey, the Reiss Male and Female Premarital Sexual Permissiveness Scales, and the Revised Mosher Guilt Inventory (Touliatus, Perlmutter, Strauss, & Holden, 2000). The Cronbach alphas for this study for the subscales were .94, .71, .80, and .80 respectively.

Reckless Behaviour Questionnaire. Arnett (1994, 1996) developed a 14-item questionnaire to measure reckless behaviour of youth. These items included such behaviours as

driving an automobile 20 miles over the speed limit, driving while intoxicated, having sex without contraception, having sex with someone not known well, using illegal drugs, stealing and vandalism. Arnett asked respondents to report the number of times within the past year that they have engaged in a range of reckless activities. The majority of response options were organized into the responses of 0, once, 2-5 times, 6-10 times, and more than 10 times. Three month test-retest reliabilities for each scale item averaged over 0.80 (Arnett, 1996). Based on this measure, scores in the current study ranged from 0 to 56 (M = 25.6; SD = 7.4) with higher scores indicating higher frequencies of reckless behaviours.

Procedure

Data were collected from college students in a classroom setting. Based on the sensitive nature of this study, each participant was informed of the voluntary nature of participation, protection of participant confidentiality, and the intended use of the information. Those individuals willing to participate in the study read and signed an informed consent. Once consent was given, each participant received the questionnaire in a blank envelope and heard verbal instructions regarding the completion of data collection. Consistent with Human Subjects Committee recommendations regarding privacy, each student was informed that they may sit no closer than one empty seat apart from other students while completing the questionnaire packet. After students completed their questionnaires, each student was asked to insert their questionnaire in a sealed envelope to ensure confidentiality. All measures were completed by participants within a 50 minute class period.

Analyses

The statistical procedures used to test the research questions included univariate analyses, i.e., frequency distributions and measures of central tendency. In addition, correlational analyses of dependent measures were completed and used as a basis for examining relations between all variables in the study. Finally, reckless behaviours, sexual attitudes, and demographic variables of age and race were treated as predictor variables of sexual behaviour.

An exploratory factor analysis was performed on the sexual behaviour measure. To maximise variances of the factors, Varimax rotation was employed (Pedhazu & Schmelkin, 1991). Three distinct factors emerged including the sexual behavioural categories of same sex behaviour, opposite sex behaviour, and anal sexual behaviour. The three behavioural categories explained 79.89% of the total variance in the model suggesting that this sample of college women were likely to engage in one of the three categories of behaviour with little overlap into the other categories. The majority of responses were within the opposite sex behaviour category. As anal sex appears to be uncorrelated to sexual orientation and its own category, with 15% of the sample reporting having engaged in this activity, it was not considered in the sexual behaviour category for this study. Multiple regression analyses were used to assess relations between self-esteem, sexual attitudes sexual behaviour (see Table 4). Self-esteem was treated as a predictor variable along with each of the four subscales of sexual attitudes; sexual behaviour continued to be the criterion variable in each case.

RESULTS

The purpose of this exploratory study was to examine relations between sexual attitudes, self esteem, and sexual behaviours of emerging adult women. In addition, the extent to which sexual behaviour of emerging adults was predicted by their reckless Behaviour, sexual attitudes, race, and age was also examined. Means and standard deviation of dependent measures are presented in Table 2 and a correlational matrix of dependent measures is presented in Table 3.

Table 2: Means and Standard Deviations of Regression Variables

	N	Mean	Standard Deviation
Sexual Behaviour	364	41.82	10.86
Sexual Permissiveness Attitudes	364	87.25	12.34
Sexual Practice Attitudes	364	11.92	4.10
Reckless Behaviours	364	25.57	7.45

Table 3: Correlation Matrix Table of Regression Variables (N=364)

	Sexual Behaviour	Sexual Permissiveness Attitudes	Sexual Practice Attitudes	Reckless Behaviours
Sexual Behaviour	1			
Sexual Permissiveness Attitudes	-.319*	1		
Sexual Practice Attitudes	-.379*	.270*	1	
Reckless Behaviours	.425*	-.296*	-.237*	1

*Significant at the $p = <.01$

Sexual Behaviour

Ninety six percent of the participants reported their sexual orientation as heterosexual (M = 1.07; SD, .372). Twenty four percent reported never having heterosexual intercourse; 288 indicated having had heterosexual intercourse ranging from rarely (9%) to frequently (23%). Most of the college women (85%) indicated they never engaged in heterosexual anal intercourse.

Using Reckless Behaviour to Predict Sexual Behaviour

The most frequently reported reckless behaviours were "had sex without contraception" (*M* = 3.13, *SD* = 1.56), "driven an automobile greater than 20 MPH over the speed limit" (*M* = 2.88, *SD* = 1.27), and "driven an automobile faster than 80 MPH" (*M* = 2.83, *SD* =1.25). The least reported reckless behaviours were "stolen item(s) worth more than $50" (*M* = 1.63, *SD* = 0.37), "vandalized" (*M* = 1.14, *SD* = 0.47), and "used illegal drugs (besides marijuana)" (*M* = 1.37, *SD* = 0.93).

Because of the exploratory nature of the analyses, a stepwise hierarchical regression procedure was used to test the theoretical underpinnings of this study. Bandura proposed that behaviour change is influenced by environmental factors, personal factors, and attributes of the behaviour itself. Consequently, the model (see Table 5) includes a measure of the contribution of self reported reckless behaviours on the sexual behaviours of young women. Previous literature has suggested a positive association between engaging in reckless behaviours and sexual behaviour. Thus, reckless behaviours were entered last in the model. However, consistent with Bandura (1999), each successive block contained exploratory variables possibly associated with sexual behaviour including race, age, sexual permissiveness, sexual attitudes, and finally, reckless behaviours. The number of potential predictors was well within the suggested guidelines regarding associated sample size (see Field, 2005, p. 162).

Examination of the correlation coefficient matrix clearly demonstrated that reckless behaviour offered the strongest association with sexual behaviour (*R* = .425, p <.01), followed by negative associations of sexual practice attitudes (*R* = -.379, p <.01), and sexual permissiveness attitudes (*R* = -.319, p <.01) with sexual behaviour (see Table 4). These results suggested that of all the variables entered in the additional blocks (sexual permissiveness

Table 4: Self-esteem and sexual attitudes as predictors of opposite sex behaviour and same sex behaviour (N=364)

Predictor Variables:	r	β	R	R^2
Opposite Sex Behaviour:				
Self-Esteem	.079	.116	.328*	.107***
Sexual Permissiveness	.307***	.320		
Self-Esteem	.079	.377	.383*	.147***
Sexual Practices	.381***	.044		
Self-Esteem	.079	.057		
Communion in Relationship	.243*	.237*	.249	.062***
Self-Esteem	.079	.082	.203	.041***
Instrumentality	.185*	.186		
Same Sex Behaviour:				
Self-Esteem	.008	.005	.114	.013
Sexual Permissiveness	.114	.114		
Self-Esteem	.008	.018	.103	.011
Sexual Practices	.101	.103		
Self-Esteem	.008	.006	.019	.000
Communion in Relationship	.018	.017		
Self-Esteem	.008	.008	.024	.001
Instrumentality	.022	.022		

**p<.05; ** p<.01; ***p<.001*

attitudes, sexual practice attitudes, and reckless behaviours) of emerging adult women would likely contribute to the precision of predicting their sexual behaviour.

The final stepwise hierarchical model is summarized in Table 5. As can be gleaned from the final model summary, reckless behaviour and both sexual practices and sexual permissiveness attitudes, accounted for 28% of the variation in sexual behaviour. Although several variables were explored for their potential to predict the sexual behaviour of women, the final model appeared robust. An examination of the excluded variables' beta values (and associated *t*-tests and *p* values) indicated that all excluded variables in the analyses offered no additional contribution if they were included in the model. In an effort to investigate linearity (and homoscedasticity), independence, and multicolinearity assumptions, the standardised residual/predicted value plot, the Durbin-Watson statistic, and the VIF statistic were consulted, with no apparent violations. Additionally, a review of case-wise diagnostics revealed no cases having undue influence on the regression parameters.

Table 5: Hierarchical regression model for sexual behaviour

	B	*SE B*	*β*
Step 1			
Constant	28.96	6.33	
Age	.65	.32	.11*
Step 2			
Constant	57.70	7.51	
Age	.44	.31	.07
Race	-.04	.46	-.00
Sexual Permissiveness Attitude	-.28	.04	-.32*
Step 3			
Constant	66.41	7.33	
Age	.15	.30	.03
Race	-.05	.44	-.01
Sexual Permissiveness Attitude	-.20	.04	-.23*
Sexual Practice Attitude	-.85	.14	-.30*
Step 4			
Constant	49.07	7.41	
Age	.00	.28	.00
Race	.28	.42	.03
Sexual Permissiveness Attitude	-.13	.04	-.15*
Sexual Practice Attitude	-.70	.14	-.25*
Reckless Behaviours	.47	.07	.32*

Note R^2 = .01 for step 1, R^2 = .10 for step 2, R^2 = .18 for step 3, and R^2 = .27 for step 4 (ps < .05).
* p < .05.

Self-Esteem, Sexual Attitudes and Sexual Behaviour

For opposite sexual behaviour, self-esteem contributed to sexual permissiveness and sexual practices (R^2 = .107 and .147 respectively). Self-esteem made marginal contributions to communion in relationships (R^2 = .062) and instrumentality (R^2 = .041). Self esteem was not a significant factor in the relations between same sex behaviour and any of the sexual attitudes subscales.

DISCUSSION

The findings of this study support previous research (Cooper, 2002; Fields, 2002) that United States university women are highly engaged in sexual activity and much of that activity is risky. Such findings underscore the national and international data sets that report the vulnerability of this age group for increased unwanted pregnancies and STIs (World Health Organisation, 2008; United States Department of Health and Human Services, 2008). U. S. emerging adult women between the ages of 18 and 25 have been shown to engage in reckless behaviour including high-risk sexual behaviour, more often than individuals in any other age groups (Arnett, 2007, 1996; Gullone, et al., 2000). The sexual behaviour of women in this study was significantly related to their reports of engaging in reckless behaviour. Those who reported greater frequencies of reckless behaviours such as exceeding the speed limit by 20 miles per hour over the posted speed limit, driving an automobile over 80 miles per hour, smoking marijuana, or driving while intoxicated, among others, were more likely to engage in high risk-taking sexual behaviour (e.g., sex without contraception, sex with people you don't know well).

Over 76% of the participants reported that they were sexually active and many reported that they engaged in intercourse without contraception or that they had sex with someone they did not know well. This finding is consistent with previous research (e.g., Arnett, 1996; 2007; Civic, 1999) who found that intercourse without contraception and sex with someone known only casually were of a higher frequency in young adults than other age groups.

The sexual attitudes of college women contributed a small amount to the opposite sex behaviour models when examining reckless behaviour and sexual attitudes as predictors of sexual behaviour. It may be that emerging adult women underestimate their reckless behaviour. For example, Kershaw, et al. (2003) found that 51% of the women underestimated their sexual risk taking behaviours. Gullone, et al. (2000) and Hollander (2003) also suggested that adolescents and young adults who may be risk takers do not recognise the potential consequences of reckless behaviour and do not see the consequences as profound. Rolison and Scherman (2002) also found that perceived risk correlated negatively with risk involvement. Although there is a vast amount of information available to college students concerning the dangers of engaging in high-risk sexual behaviours (e.g., unprotected sex, multiple partners, among others), it appears that they may not perceive themselves to be in great jeopardy while engaging in these behaviours.

Hendrick and Hendrick (1987) reported that young adults in their study conveyed less instrumentalist attitudes with regard to sexual behaviour. In the current study, sexual permissiveness, sexual practices, communion in relationship, and instrumentality (e.g., the main purpose of sex is physical enjoyment), appeared to relate to reckless behaviour among college women who engaged in same-sex behaviours. The same relationship also existed with same-sex behaviour, sexual permissiveness, and sexual practices and reckless behaviour. Johnson, et al. (2002) reported that many youth know the potential negative outcomes of engaging in reckless behaviour, yet they may perceive themselves as being at less risk when engaging in those same behaviours. Johnson et al. termed this "unrealistic optimism" and reported this perception in both adolescents and young adults. It may be that those with permissive attitudes, who engage in reckless activities, hold the belief that responsibility in these behaviours is important (i.e., sexual practice), yet fail to act responsibly because they perceive themselves at less risk or possess unrealistic optimism about their risky Behaviour. From a social cognitive perspective, personally engaging in highly reckless behaviour and knowing others who have done the same without negative outcomes may further reinforce the behaviour and lead to participation in higher risk situations.

Basing important life altering choices on non-factual information puts emerging adult women at high-risk for a multitude of sexually related infections, un-wanted pregnancies, and illnesses. Relying on the truthful sharing of sexual history information, instead of objective STI test results, does not guarantee that a partner is free from disease or infection. Engaging in intercourse with just one additional person is not safe if that person is infected with HIV/AIDS.

Implications for Health Education

High risk sexual behaviour continues to be a problem on U.S. college campuses. Health education on protection against disease and pregnancy is not enough to curb high risk sexual behaviour during emerging adulthood. Sexual risk-taking is more complicated than just having the knowledge to protect oneself. There remains a need to understand the core interpersonal reasoning that young adult women use which allows them to continue to engage in reckless behaviours. Also, institutionalized learning environments, parents, and students can play important roles in developing sex education curriculum that is effective in helping young women make sound sexual decisions that do not put them at risk for disease and pregnancy. Student services might offer focus groups on university campuses dedicated to generating effective local ideas for interventions with young women. Effective strategies may not only be

culturally based but may also be regionally based. Such a recommendation is in keeping with Bandura's notion of reciprocal determinism.

Another major area of concentration might be to study college students' beliefs about the circumstances that lead to safe and unsafe sexuality. Knowing these beliefs might also help guide effective intervention strategies for this age group. Especially important for emerging adult women is promotion of self efficacy regarding their perceived skill and comfort with overcoming situational pressures as they relate to sexual behaviour. Bandura proposed that behaviour change is influenced by environmental factors, personal factors, and attributes of behaviour itself. It would seem that university women are in a unique position because of their status to effectively confront the congruence or lack of congruence of their sexual attitudes, self esteem, and subsequent reckless sexual behaviours. Health educators are in a position to identify and provide curriculum modules on the dangers of unsafe sexual behaviour but also identify personal and environmental characteristics that foster this type of behaviour on university campuses.

Health educators can reach university women through well planned curricula and carefully consideration of the following strategies. First, university women need to have models for safe sexual practices and the knowledge about what constitutes safe and unsafe sexual behaviour. However, prior to this time, children need comprehensive sexuality education. With a foundation of sexual knowledge at earlier ages, emerging adult women are in a much better position to benefit from healthy sex behaviour during their early adult years. Second, they need to believe that they will be able to use the methods of contraception effectively (self-efficacy) and trust that the methods are reliable and effective. Finally, young women must be able to anticipate or obtain a benefit for accomplishing the behaviour. U.S. young adult women have a history of sex education around the hazards of sex. Other western countries like Sweden recommend that adolescents and emerging adults gain knowledge about sex to help them experience sexual life as a source of happiness and fulfillment in interactions with others. Health educators would be wise to consider this type of orientation for planning sex education interventions with young adult women in hopes of being more effective in approaches with them.

Research Limitations

Every effort was made to control for threats to internal and external validity. However, a more diverse group of participants (i.e., cultural, age, socioeconomic status) would improve the generalisability of this study to more varied population. Further, it is assumed that the respondents answered the questions honestly, especially as they pertained to sexual behaviour. Some have suggested that in general most participants answer sexual behaviour questions honestly, as questions become more unconventional, self-reports may be influenced by normative expectations instead of actual rates of engagement. Conditions of confidentiality were clearly communicated to all participants in this study in hopes of promoting confidence in self reporting behaviours and beliefs.

Self-esteem alone was not a good predictor of sexual behaviour. The addition of a measure of sexual self-efficacy that explores sexual attitudes and one's effectiveness in asserting and employing protective sexual measures with a partner is needed.

Future Research

Although this study examined several variables influencing sexual behaviour, it also points to areas in need of further research for this population. Areas of interest would include relationships among cross cultural differences, peer/organisational influences, alcohol use and drug use as they relate to high risk sexual behaviour on campuses. Continued investigation of the related influences that affect the decision making skills of college women will further outline a comprehensive agenda for explaining high risk

sexual behaviour among this population and aid in the development of more comprehensive and effective health education programs.

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