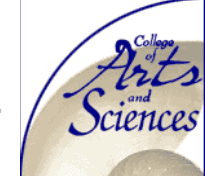


Negative Affective States, Substance Use, and Risky Sexual Behavior



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Abstract

Global association studies examining the relationship between negative affective states and risky sexual behavior have netted mixed findings (Crepaz & Marks, 2001). Global association studies for substance use and risky sexual behavior largely suggest a positive association between these variables (Leigh & Stall, 1993). Few studies have examined the potential interaction of these variables on risky sexual behavior. The present study examined relationships among negative affective states (depression, anxiety, and stress), substance use (alcohol, marijuana, and/or other drugs), and frequency of unprotected sex among a sample of 122 male and female college students across a four week period. No significant main effect was found for substance use and there were no significant interactions between substance use and any of the negative affective states. Furthermore, there was no significant main effect for depression or anxiety. A strong trend towards a main effect for stress was found, with a greater frequency of unprotected sex among individuals with higher levels of stress ($M = 4.46$) than individuals with lower levels of stress ($M = 2.33$).

Introduction

The majority of studies examining the relationship between alcohol or substance use and risky sexual behaviors have found a positive association (Leigh & Stall, 1993). Studies examining a wide variety of different populations have often found that greater levels of depression and/or anxiety were related to greater levels of HIV-related sexual risk behavior. However, numerous studies have found that depression and/or anxiety were unrelated to HIV-related sexual risk behavior. Reports of negative associations are infrequent but have been found occasionally as well. As a result of the equivocal findings, it is difficult to determine whether or not there is a relationship between the negative affective states of depression and anxiety and HIV-related sexual risk behaviors. A meta-analytic report concluded that there is little support for an association between negative affective states and HIV sexual risk behavior (Crepaz & Marks, 2001). Effect sizes for depression, anxiety, and anger were non-significant. Furthermore, little, if any, attention has been paid to stress. This variable was not included in the meta-analysis noted above and individual studies have not examined this negative affective state in relationship to sexual risk behavior.

Major limitations to the research described above are the retrospective, cross-sectional, and correlational nature of the studies, which limit conclusions regarding causality and third factor explanations (Leigh & Stall, 1993). Prospective and longitudinal studies may offer fresh insight. In addition, studies generally examine recent negative affect in relationship to sexual behaviors over a longer recall period (Kalichman & Weinhardt, 2001).

Studies examining overlapping recall periods will be important. Furthermore, examination of potential mediating and moderating variables may be useful. Studies investigating the potential interaction between substance use and negative affective states in sexual risk behavior may explain some of the mixed findings.

Method

Participants

The sample consisted of 122 individuals who were undergraduate college students taking classes at the University of West Florida. Respondents were predominantly Caucasian (77%) and female (73%), with an average age of 24.8 (range = 18 - 56). Table 1 presents additional demographic characteristics of the sample

Table 1: Demographic Characteristics of Sample

Demographic characteristic	n	%
Gender		
Female	89	73.0
Male	32	26.2
Missing	1	0.8
Race		
White/Caucasian, not Hispanic	94	77.0
Black/African American, not Hispanic	15	12.3
Hispanic	3	2.5
Hispanic/Latino/Latina	6	4.9
Asian American/Pacific Islander	4	3.3
Multi-Racial		
Relationship Status		
Not involved in casual or committed relationship	40	32.8
Involved in one or more casual relationship	18	14.7
Involved in one or more committed relationship	63	51.6
Missing	1	0.8

Procedures

Following approval by the IRB, data were collected over a two semester time period in 2003-2004. The study was introduced in 10 classrooms. Measures were distributed to those students interested in participation and provided informed consent. For the majority of the participants, extra credit was offered in exchange for participation.

As this was a repeated measures design, the same measures were completed every week on the same day for four weeks. A total of 194 students agreed to participate in the study and completed repeated measures. Participants who completed all four weeks of measurement were included in analyses, resulting in a sample of 122 (63%) participants.

Measures

In addition to items assessing sociodemographic characteristics of respondents collected at the first week, participants completed weekly measures of frequency of sexual behavior, including condom use and sex under the influence of alcohol, marijuana, and other drugs. Participants also completed the Depression Anxiety Stress Scales each week, a 21 item measure of negative affective states with good psychometric properties (Antony et al., 1998).

Results

Risk Behavior of Participants

Sexual activity within the sample ranged from abstinence to consistent condom use to frequent unprotected intercourse. Table 2 describes the sexual activity of the sample.

Table 2. Sexual Activity of Sample During Previous Month

Sexual activity during previous month	n	%	
Abstinent	57	46.7	
Sexually active	65	53.3	
Frequency of unprotected sex among sexually active participants			
0 incidents of unprotected sex	4	6.2	3.3
1-10 incidents of unprotected sex	49	75.4	40.2
11 or more incidents of unprotected sex	11	16.9	9.0
Missing	1	1.5	0.8

Substance use to the point of intoxication in the previous month was reported by 52% of the participants. Of those participants reporting unprotected sex, 72% reported being in a committed relationship, 15% reported no involvement in either a casual or committed relationship, 10% reported involvement in a casual relationship, and 3% reported more than one relationship.

Depression, Anxiety, and Stress

Scores on the Depression, Anxiety, Stress Scales were at or below the mean for a published non-clinical normative sample (Antony et al., 1998). Mean scores are presented in Table 3.

Table 3. Depression, Anxiety, and Stress Scores

Scale	M	SD
Depression	2.81	3.02
Anxiety	2.38	2.84
Stress	5.38	3.75

Analysis of Variance in Frequency of Unprotected Sex

Three 2 X 2 ANOVAs were performed using the frequency of unprotected sex in the previous month as the dependent variable. Two levels of depression, anxiety, and stress (high versus low) and two levels of substance use (use of substance to intoxication in the previous month versus no use of substance to intoxication in the previous month) served as the independent variables.

No significant main effect was found for substance use and there were no significant interactions between substance use and any of the negative affective states. Furthermore, there was no significant main effect for depression or anxiety. A strong trend towards a main effect for stress was found ($F(1, 121) = 3.69, p = .057$). Individuals reporting high levels of stress reported greater frequency of unprotected intercourse in the previous month ($M = 4.46$) than individuals reporting low levels of stress ($M = 2.33$).

Discussion

In contrast to most literature, the use of substances to intoxication was not associated with frequency of unprotected intercourse. Consistent with the literature, the findings regarding the effects of negative affective states were mixed. The results suggest that higher stress may be associated with greater frequency of unprotected intercourse. However, similar effects for the other two negative affective states were not detected. Meta-analytic findings of Crepez and Marks (2001) showed an absence of a significant main effect for depression and anxiety.

Furthermore, the absence of an interaction between negative affective states and substance intoxication fails to support the hypothesis that the relationship between negative affect and sexual risk behavior is mediated by substance intoxication. This suggests that the interrelationships among these variables are not simple, straightforward, linear relationships. Rather, these may be unrelated or may involve complex relationships mediated by additional variables. Such findings support the need for situational association studies and longitudinal investigations that utilize event level analyses (Kalichman & Weinhardt, 2001; Leigh & Stall, 1993).

Findings may have limited generalization outside of college student populations. It may be possible that the same results would not be seen in other samples. Although there are many benefits to doing a repeated measures design, participant attrition rates were somewhat high in this study, with only 63% of the population completing all four weeks of the study.

References

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