



Article

Witnessing Sexual Harassment and Associated Substance Use and Poor Mental Health Outcomes among Adolescent Girls in the US

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Abstract: Direct experiences of sexual harassment have been found to be associated with substance use and poor mental health among girls. Indirect experiences, such as witnessing the sexual harassment of others, may be indicative of a climate supportive of sexual harassment against girls and elicit similar adverse outcomes. The current study sought to assess reports of witnessing sexual harassment and associations with substance use and mental health outcomes among adolescent girls. The data were from questionnaires among girls ($n = 152$) ages 15–19 recruited from a health clinic serving a low-resource community in San Diego County. Using crude and adjusted regression models, we assessed witnessing the sexual harassment of girls (past year) as well as the frequency of witnessing such acts in relation to substance use, anxiety, depression, and suicidal ideation. The adjusted models included demographics and direct experiences of sexual harassment (past 6 months) as covariates. The participants had an average age of 17, and 76% were Latina. The majority (70%) reported witnessing sexual harassment (past year); 65% reported directly experiencing sexual harassment (past 6 months). Among those reporting witnessing, most witnessed sexual harassment at school (69%), at a party (45%), in their neighborhood (34%), or on public transport (33%). In adjusted logistic regression models, witnessing sexual harassment was significantly associated with past 30-day alcohol use, ever using drugs, feeling depressed (past 30 days), feeling anxious (past 30 days), and past-year suicidal ideation (ORs range 2.9–18.2). The findings suggest that, in addition to direct experiences of sexual harassment, indirect experiences of witnessing the sexual harassment of others may also be associated with negative outcomes regarding girls' health and well-being.

Keywords: sexual harassment; girls; adolescents; alcohol use; depression; anxiety



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1. Introduction

Millions of women in the US and abroad experience sexual violence in their lifetimes. Sexual harassment, which is also a form of sexual violence, can take either verbal (i.e., sexual remarks or gestures), physical (e.g., touching, grabbing, or pinching), or electronic (i.e., sharing of sexual imagery without consent) forms [1,2]. Studies indicate that the majority of women in the US have been victims of sexual harassment, most commonly in public spaces [3]. The vast majority of women report their first victimization in adolescence [1,4]. Sexual harassment is not only common, it is also a chronic concern for adolescent girls. For example, one study found that approximately 14% of girls between the ages of 14 and 17 years reported experiencing harassment within the last year, whereas only 5% of same-aged boys reported such abuse [5].

In the United States (US), girls belonging to racial and ethnic minority groups appear to report higher levels of sexual harassment when compared to their White

counterparts [2,4,6,7]. Of concern, there has been increasing evidence from US-based neighborhood studies indicating that prevalence estimates are even greater and the frequency of exposure is higher among young women living in low-resource neighborhoods, where other forms of sexual violence and community violence are high and often intersect [8–12]. The disproportionate burden of all forms of violence, including sexual harassment, in low-income communities may likely create a climate where sexual harassment may be reported as the norm in such contexts.

The evidence on the negative effects of direct victimization from sexual harassment is substantial. Sexual harassment among adolescents is a significant public health concern, as it is linked to a number of poor health-related outcomes for adolescent girls who are victimized, including mental health issues and substance use [2,13–19]. Indirect experiences of sexual harassment (i.e., witnessing the victimization of others) may also elicit fear as well as other stressors that result in similar poor health outcomes among girls. Environments that support the normalcy and acceptability of the sexual harassment of girls in public spaces may increase a girl's sense of her own personal risk for sexual harassment and violence. Numerous studies have documented adverse health effects as a consequence of witnessing other forms of violence, such as partner violence and community violence [20–22]. Additionally, studies on racial discrimination have shown that indirect or vicarious experiences of discrimination, including witnessing events of racial discrimination against others, is associated with increased stress and poor health outcomes similar to those associated with direct experiences of racial discrimination [23]. Yet, little is known regarding whether witnessing the sexual harassment of other women/girls may have a similar impact as those caused by direct experiences [24]. Understanding whether a climate of sexual harassment can have implications on poor health is particularly important given the high frequency of sexual harassment exposures, particularly within low-resource communities.

The most common types of sexual harassment experienced by adolescent girls are verbal forms of sexual harassment, such as negative comments about their body or their physical appearance, as well as unsolicited sexual touching, pinching, or grabbing [3,24]. Much of the literature on sexual harassment among adolescents has focused on incidents that occur in schools [4,25,26]. Although these school-based studies show that adolescent girls (ages 10–19 years) experience a substantial amount of sexual harassment at school [2,4], sexual harassment can occur in a variety of places within a girl's environment, including social gatherings/parties [27] and in other public spaces, such as transportation [28]. The frequency with which girls witness sexual harassment across all of these various places may be a critical concern. In order to understand the climate of sexual harassment, more research is needed to understand the various settings where girls are witnessing sexual harassment, as well as how often they are reporting these incidents.

Overall, little is known regarding the prevalence of witnessing sexual harassment among adolescent girls across diverse contexts, the frequency in which girls report witnessing sexual harassment, and associations with substance use and mental health outcomes among girls. Thus, the current study sought: (1) to report the prevalence of witnessing the most common forms of sexual harassment across diverse contexts among girls; (2) to describe the frequency with which these events occur; and (3) to assess the substance use and mental health outcomes associated with witnessing sexual harassment. To begin to understand how a climate of sexual harassment may have implications on poor health, we assessed the relation between witnessing sexual harassment and these health outcomes above and beyond any influence of direct experiences of sexual harassment.

2. Materials and Methods

2.1. Study Sample and Recruitment

The current study is part of a cross-sectional study assessing risk factors for STI and pregnancy among sexually active adolescent females recruited from an adolescent health clinic in San Diego County near the US-Mexico border. Females ($N = 159$) between the ages of 15 and 19 years were recruited from an adolescent health clinic via provider referral

and/or by research assistants in the clinic waiting room. Eligibility criteria included: (a) biologically female, (b) ages 15–19 years, (c) sexually active within the past 6 months (given that the larger study focused on sexually transmitted infections and pregnancy risk), (d) English-speaking, (e) willing to provide a urine sample for screening, and (f) having the capability to provide informed consent (e.g. after going through the consent form, participants had to answer several questions to ensure that they understood what would be involved in participating in the research study as well as any study-related risks). Participants missing data ($n = 7$) on witnessing sexual harassment, substance use, or mental health outcomes were deleted from the current study analyses (final sample size of $n = 152$).

2.2. Study Procedures

Trained female research staff members obtained informed consent from all participants in a private room. Subsequently, participants were provided a tablet on which to take the 45–60 minute questionnaire, which collected information on participants' socio-demographics characteristics (e.g., age, race/ethnicity) sexual and reproductive health (e.g., STI history, previous pregnancy), sexual behavior (e.g., history of sexual activity, condom use, use of other contraceptives), alcohol/substance use (e.g., lifetime use, use in past 30 days), mental health (e.g., depression, anxiety), and experiences of violence and harassment (e.g., sexual and physical violence, witnessing and direct experiences of sexual harassment). The participants were provided with a \$20 gift card for completing the survey. All study protocols and procedures were approved by the Institutional Review Board (IRB) at the UC San Diego Human Research Protections Program.

2.3. Measures

Witnessing Sexual harassment. Witnessing various forms of sexual harassment in the past year was measured with four items. The participants were asked how often (using five-point Likert scale response options ranging from “very often” to “not often at all”) they had seen or heard boys/men: (a) make sexually rude or disrespectful comments about a girl's body or clothing (e.g., catcalling) and (b) touch, grab, or pinch a girl in a sexual way in public that was unwanted. These indirect experiences of witnessing sexual harassment were adapted from a validated survey measuring direct experiences of sexual harassment (the American Association of University Women's survey), using the most common forms of sexual harassment experiences reported by girls/women. Given our focus on sexual harassment as a form of gender-based violence against girls/women, with the majority of this in-person violence perpetrated by males [3], we focused on males as perpetrators of this form of violence. The participants were then asked to identify the place(s) where they witnessed sexual harassment (e.g., at school, at home, the immediate area around their home, their neighborhood, another neighborhood, at a party or kickback, or public transportation). A variable was constructed to compare participants who had witnessed any sexual harassment vs. never in the last year. We also created a variable for the frequency with which participants reported witnessing these forms of sexual harassment using a mean score of the two items, with higher scores indicative of a greater frequency of witnessing sexual harassment.

Experiencing sexual harassment: Experiencing sexual harassment victimization was assessed with four items adapted from the validated American Association of University Women survey. Items asked participants to report (yes/no) whether any individual or group of men/boys did any of the following in the past 6 months: (a) made unwanted sexual comments, jokes, or gestures towards them in public, (b) exposed themselves sexually in public, (c) touched, grabbed or pinched them in a sexual way that they did not want, and/or (d) touched them with any part of their body (including getting too close or rubbing up against them) when they did not want them to. We created a dichotomous variable to reflect participants who reported ever experiencing any of these forms of sexual harassment vs. never having these experiences. (This variable was included in order to

adjust for any associations between witnessing and experiencing sexual harassment. See Section 2.4 on Data Analysis).

Drug use. Survey items included assessment for lifetime and past 30-day marijuana use and other drug use. In addition to marijuana use, we assessed use of 11 additional substances including cocaine, stimulants, and prescription drugs without a prescription. The participants who reported lifetime marijuana or other drug use were then asked whether they had used these substances within the past 30 days (yes/no).

Alcohol Use. We assessed lifetime and past 30-day alcohol use (yes/no). Among participants who reported past 30-day alcohol use, we also asked about binge drinking, which was defined as having 5 or more alcoholic drinks on one occasion (yes/no). To assess riskier drinking behaviors, we asked about five drinks on one occasion instead of four drinks, where four drinks is typically used to define binge drinking among girls [29].

Mental health. Three items were used to assess depression, anxiety, and suicidal ideation (e.g., thoughts about attempting suicide). One-item measures were used to ask participants whether they felt (a) anxious in the past 30 days and/or (b) depressed in the past 30 days using a one (not at all)- to four (nearly every day)-point Likert scale. Participants who reported feeling anxious or depressed half or nearly every day were categorized as experiencing anxiety or depressive symptoms. Suicidal ideation was measured dichotomously by asking participants whether they had ever considered attempting suicide in the past year.

Demographics. Demographic variables (e.g., age, race, Latino origin) and living situation were used to characterize the sample. With the exception of age, all demographic variables were categorical.

2.4. Data Analysis

Descriptive statistics were used to summarize demographic characteristics, types of sexual harassment that were witnessed, and the places in which these events occurred. Chi-square, Fisher's Exact tests, and T-tests were used to examine the association of demographic variables with witnessing sexual harassment, including the frequency of witnessing sexual harassment. Crude and adjusted logistic (and, in relevant cases, exact conditional logistic) and linear regression models were conducted to assess the associations between witnessing (and the frequency of witnessing) sexual harassment and participants' past 30-day alcohol use, drinking five or more alcoholic drinks at once in the past 30 days, past 30-day marijuana use, other drug use ever, feeling depressed in the past 30 days, feeling anxious in the past 30 days, and past-year thoughts of suicide. All demographic variables associated with outcomes at $p < 0.05$ were included in the adjusted models. In addition, in order to obtain effect estimates for witnessing sexual harassment above and beyond any effects of personal sexual harassment experiences, all models were further adjusted for direct experiences of sexual harassment, given that witnessing and experiencing sexual harassment may be correlated. The findings from the logistic regression models were presented as odds ratios and exact odds ratios with associated 95% confidence intervals (CIs), and the significance of individual variables was evaluated using Wald chi-square and exact conditional tests. The linear regression findings were presented via the parameter estimates (β), standard error, and associated p value. All analyses were conducted using SAS[®] version 9.4.

3. Results

Sample Characteristics

A total of 152 adolescent girls between the ages of 15 and 19 ($M = 17.0$, $SD = 1.1$) years were included in the study analyses (Table 1). The majority of the girls identified as Latina (76%) and were born in the U.S. (77%). The majority (70%) reported witnessing at least one type of sexual harassment in the past year. (Notably, 65% reported directly experiencing sexual harassment in the past 6 months.) Over 66% of girls saw boys/men making sexually rude or disrespectful comments to girls about their body, and 22% re-

ported seeing boys/men grabbing, touching, or pinching a girl in public in a sexual way that was unwanted. The majority of sexual harassment that girls reported witnessing occurred at school (69.1%), at a party (45.4%), in their neighborhoods (34.5%), and in public transportation (32.8%) (data not shown).

Table 1. Sociodemographic characteristics of the study sample ($n = 152$): Total sample and by whether participants reported witnessing sexual harassment and the frequency of these incidents.

Characteristics	Witnessing Any Type of Sexual Harassment (Past Year)			Frequency of Witnessing Any Type of Sexual Harassment in the Past Year:—Response Options Ranged from “Very Often (5)” to “Not Often at All (0)”		
	Total Sample ($n = 152$)	No ($n = 45$)	Yes ($n = 107$)	p Value	Correlation Coefficient	p Value
Age ^a	17.0 (1.1)	17.2 (1.0)	17.0 (1.1)	0.50	0.045	0.57
	n (%)	n (%)	n (%)	p value	Mean (standard deviation)	p value
Race				0.23		0.16
White	23 (15.1)	7 (18.9)	16 (16.8)		2.8 (1.2)	
Asian	21 (13.8)	3 (8.1)	18 (19.0)		2.6 (1.3)	
American Indian/Native Hawaiian	11 (7.2)	5 (13.5)	6 (6.3)		2.1 (1.1)	
Black or African American	5 (3.2)	0 (0.0)	5 (5.3)		2.0 (0.9)	
Others ^b	72 (47.3)	22 (59.5)	50 (52.6)		2.2 (1.1)	
Latino				0.02		0.05
No	36 (23.7)	5 (11.1)	31 (29.0)		2.6 (1.1)	
Yes	116 (76.3)	40 (88.9)	76 (71.0)		2.2 (1.1)	
Born in the US				0.18		0.20
No	34 (22.3)	13 (29.6)	21 (19.6)		2.0 (1.1)	
Yes	117 (77.0)	31 (70.4)	86 (80.4)		2.3 (1.1)	
Live with parents				0.32		0.54
No	24 (15.8)	9 (20.4)	15 (14.0)		2.4 (1.0)	
Yes	127 (83.6)	35 (79.6)	92 (86.0)		2.2 (1.1)	
Reporting any sexual harassment in the past 6 months				<0.0001		<0.0001
No	51 (33.6)	31 (68.9)	20 (18.7)		1.7 (0.8)	
Yes	101 (66.4)	14 (31.1)	87 (81.3)		2.6 (1.1)	

Notes: ^a Mean and standard deviation are shown for the continuous variable: age. ^b A total of 93% of those in the “other” category were participants who identified as Mexican/Hispanic when asked to write in their response. Numbers may not add up to 100% due to missing values.

Participants identifying as Latina were less likely to report witnessing sexual harassment ($\chi^2 = 5.6; p = 0.02$) and reported a slightly lower frequency of witnessing sexual harassment ($T = 2.0; p = 0.05$) compared to participants who did not identify as Latina. Participants reporting direct experiences of sexual harassment in the past six months were more likely to report witnessing sexual harassment in the past year ($\chi^2 = 35.8; p < 0.0001$) and also reported a greater frequency of witnessing sexual harassment ($T = -5.7; p < 0.0001$) compared to those who did not report direct experiences of sexual harassment. No other statistically significant differences were found in reports of witnessing sexual harassment across sample characteristics.

Witnessing Sexual Harassment and Association with Substance Use and Mental Health: Crude and Adjusted Logistic Regression Findings:

In adjusted logistic regression models (adjusting for age, race/ethnicity, and direct experiences of sexual harassment in the past 6 months), compared to girls who did not witness sexual harassment, girls who witnessed sexual harassment had greater odds of past 30-day alcohol use (AOR: 3.6, 95% CI: 1.3–10.0), past 30-day marijuana use (AOR: 4.2, 95% CI: 1.4–12.5), ever using drugs (AOR: 18.2, 95% CI: 3.7–∞) (CI reaches ∞ because all girls who witnessed sexual harassment reported having ever used drugs), feeling depressed within the past 30 days (AOR: 3.3, 95% CI: 1.4–7.8), feeling anxious within the past 30 days (AOR: 2.9, 95% CI: 1.2–7.1), and reporting having thoughts of suicide within the past year (AOR: 11.0, 95% CI: 1.3–96.7) (Table 2). For both substance use and mental health outcomes, similar findings were observed in unadjusted models (Table 2).

Table 2. Witnessing of and frequency of witnessing sexual harassment in relation to mental health and substance abuse outcomes: Logistic regression findings.

Variable	Total Sample (N = 152) n (%)	Witnessed Any Type of Sexual Harassment (Past Year)				Frequency of Witnessing Any Type of Sexual Harassment in the Past Year: Response Options Ranged from "Very Often (5)" to "Not Often at All (0)"		
		No (n = 45) n (%)	Yes (n = 107) n (%)	Crude Odds Ratio (OR) (95% CI)	Adjusted OR (95% CI)	Mean	Crude OR (95% CI)	Adjusted OR (95% CI)
Past 30-day alcohol use								
No	91 (59.9)	36 (85.7)	55 (51.9)	Ref	Ref	2.21	Ref	Ref
Yes	57 (37.5)	6 (14.3)	51 (48.1)	5.6 (2.2, 14.3)	3.6 (1.3, 10)	2.39	1.2 (0.8, 1.6)	0.93 (0.6, 1.3)
Past 30-day Binge								
No	88 (57.9)	29 (74.4)	59 (56.7)	Ref	Ref	2.16	Ref	Ref
Yes	55 (36.1)	10 (25.6)	45 (43.3)	2.2 (1.0, 5.0)	1.3 (0.5, 3.3)	2.49	1.3 (1.1, 1.8)	1.1 (0.8, 1.5)
Past 30-day marijuana use								
No	99 (65.1)	37 (88.1)	62 (58.5)	Ref	Ref	2.12	Ref	Ref
Yes	49 (32.2)	5 (11.9)	44 (41.5)	5.3 (1.9, 14.4)	4.2 (1.4, 12.5)	2.58	1.5 (1.1, 2.0)	1.3 (1.0, 1.8)
Lifetime drug use ^A								
No	115 (75.6)	43 (100.0)	72 (67.9)	Ref	Ref	2.13	Ref	Ref
Yes	34 (22.4)	0 (0.0)	34 (32.1)	28.3 (6.1, infinity) ^B	18.2 (3.7, infinity)	2.76	1.7 (1.2, 2.4)	1.4 (1.1, 2.0)
Feeling depressed (past 30 days)								
No	59 (38.8)	28 (68.3)	31 (30.2)	Ref	Ref	1.97	Ref	Ref
Yes	87 (57.2)	13 (31.7)	74 (69.8)	5.0 (2.3, 10.8)	3.3 (1.4, 7.8)	2.48	1.6 (1.1, 2.2)	1.3 (0.9, 1.9)

Table 2. Cont.

Variable	Total Sample (N = 152) n (%)	Witnessed Any Type of Sexual Harassment (Past Year)		Frequency of Witnessing Any Type of Sexual Harassment in the Past Year: Response Options Ranged from "Very Often (5)" to "Not Often at All (0)"				
		No (n = 45) n (%)	Yes (n = 107) n (%)	Crude Odds Ratio (OR) (95% CI)	Adjusted OR (95% CI)	Mean	Crude OR (95% CI)	Adjusted OR (95% CI)
Feeling anxiety (past 30 days)								
No	34 (22.3)	19 (46.3)	18 (17.0)	Ref	Ref	1.79	Ref	Ref
Yes	110 (72.3)	22 (53.7)	88 (83.0)	4.2 (1.9, 9.4)	2.9 (1.2, 7.1)	2.45	1.9 (1.3, 2.8)	1.7 (1.1, 2.5)
Thoughts of suicide (past year) ^A								
No	113 (74.3)	38 (97.4)	75 (79.8)	Ref	Ref	2.20	Ref	Ref
Yes	20 (13.2)	1 (2.6)	19 (20.2)	9.6 (1.2, 74.6)	11.0 (1.3, 96.7)	2.31	1.1 (0.7, 1.7)	1.0 (0.7, 1.6)

Notes: Adjusted Odds Ratios are controlled for age, Latino, and reporting of any sexual harassment in the past 6 months. Ref = reference group. ^A Exact odds ratio, using Exact Conditional Analysis, ^B Confidence interval reaches infinity due to a lack of observations in one cell. Numbers may not add up to 100% due to missing values.

In unadjusted logistic regression models, the frequency with which girls witnessed sexual harassment had a significant association with all substance use and mental health outcome variables (ORs range between 1.1 and 1.9), except for past 30-day alcohol use and reporting having thoughts of suicide within the past year (Table 2). In the adjusted logistic regression models (adjusting for age, race/ethnicity, and direct experiences of sexual harassment in the past 6 months), the frequency with which girls witnessed sexual harassment had a significant association with drug use (AOR: 1.4, 95% CI: 1.1–2.0) and feeling anxious within the past 30 days (AOR: 1.7, 95% CI: 1.1–2.5). While other variables were not statistically significant at $p < 0.05$ in adjusted analyses, considering the small sample size, it is important to note that there were substantial trends suggesting an association between the increased frequency of witnessing sexual harassment and the association with all other adverse mental health and substance use outcomes in these adjusted linear regression models.

4. Discussion

The findings from this study document that, beyond direct experiences of sexual harassment, witnessing sexual harassment is associated with an increased risk for substance use, anxiety, depression, and suicide ideation among this sexually active group of adolescent girls recruited from a clinic serving a low-income, predominantly Hispanic community in Southern California. These findings extend prior research documenting the increased risk for substance use and poor mental health outcomes among adolescent girls experiencing sexual harassment by demonstrating that witnessing sexual harassment may also afford similar poor health outcomes [1,2]. The findings suggest that living in an environment where the sexual harassment of girls is normative may compromise girls' mental health and well-being, even after accounting for direct experiences of harassment. Further, 70% of girls witnessed sexual harassment in the past year, mostly in proximal environments that they cannot avoid without compromising their education and mobility, such as school, the neighborhood, and public transportation.

The study findings highlight that witnessing sexual harassment is associated with adverse health outcomes above and beyond direct experiences of sexual harassment. These findings are aligned with studies that have reported the health impact of witnessing other forms of violence, such as racial discrimination, bullying and intimate partner violence. Studies on racial discrimination have also shown the effects of vicarious experiences of discrimination; witnessing or hearing about acts of discrimination have been found to

be associated with psychosocial stress, poor mental health outcomes, as well as other diseases associated with chronically elevated cortisol levels (e.g., cardiovascular disorders and diseases) [23,30,31]. Furthermore, studies have shown that children who witness peer victimization or bullying in their schools and communities also have poor physical and mental health outcomes [16,17,32,33]. In previous studies on partner violence, compared to those not witnessing intimate partner violence, adolescents witnessing intimate partner violence were more likely to report anxiety, PTSD, depressive symptoms, and suicide ideations [34,35]. Additional health implications of witnessing intimate partner violence have included heightened stress responses, increased risk for obesity and asthma, and gastrointestinal problems [34,36,37]. Thus, our findings expand the literature and begin to highlight how indirect exposures to sexual harassment against women/girls may have a detrimental effect on health and well-being.

Further, given that the majority of girls reported witnessing sexual harassment in their immediate environments, witnessing sexual harassment may also interfere with girls' mobility and perceptions of safety. Many women use avoidance as a coping mechanism for countering sexual harassment [38]. Studies suggest women may voluntarily restrict their mobility in public spaces as a protective measure due to fear of rape and self-objectification [39,40]. Perceptions that certain neighborhoods or areas pose a high risk for sexual violence reduce social engagement within neighborhoods, particularly affecting women, where women are less likely to walk in areas perceived as less safe [41,42]. Witnessing sexual harassment is likely to inform girls' perceptions of the level of safety of the area in which the incident occurred, and thus, more research is needed to better understand how witnessing sexual harassment can infringe on girls' freedom of movement, especially given that we found that most of these events occurred in places within girls' immediate environments.

Importantly, the findings from this study also document that girls reporting direct experiences of sexual harassment in the past six months were also significantly more likely to report witnessing sexual harassment in the past year. These findings suggest that direct and indirect experiences of sexual harassment co-exist, which may be due to high levels of social acceptability of sexual harassment [43]. Often, the solution offered to young women to address their experiences of sexual harassment is to limit girls' mobility as a means of protection, but these findings demonstrate that risks occur in daily life environments. The findings suggest that this is not just a matter of changing girls' self-protective behaviors but also addressing a climate where sexual harassment is common. More research is needed to understand the motivations among harassers and other factors in the environment (i.e., bystander behavior) that may play a role in supporting a climate where sexual harassment is so commonly and frequently experienced by young women. Such research is needed to guide program and policy change approaches that build awareness of the potential negative consequences of sexual harassment and create accountability for those perpetrating harassment behaviors. Such work may benefit from the research in the dating/sexual violence literature, which targets both perpetrators and bystanders for the prevention of violence [44,45].

Our findings must be considered in light of several study limitations. First, the study data rely on self-reported responses and may be underreported due to the sensitive nature of experiences like witnessing or experiencing sexual harassment, mental health concerns, as well as alcohol or drug use. However, we observed a high prevalence of these in our study, suggesting that many participants may have felt comfortable to report these experiences. Additionally, our assessments on mental health concerns were limited by using only single item measures. Yet, substantial proportions of girls also reported experiencing these mental health concerns. The use of anonymous self-administered surveys may have improved reliability and accuracy of our findings, given that these strategies have been shown to improve accuracy in self-reported data collection [46]. While we measured witnessing sexual harassment in the past year, we assessed direct experiences of sexual harassment using a more recent timeframe of 6 months, which may miss those who had experiences

of sexual harassment more than 6 months prior to the survey. However, we found high proportions of girls reporting both direct and indirect exposures to sexual harassment, suggesting that these experiences are ongoing in girls' lives. Future research is needed to better align girls' experiences of witnessing and direct experiences of sexual harassment in terms of the timeframe of exposure and types of items assessed. Given the increasing extent to which girls are also exposed to cyber sexual harassment, future studies may also be needed to assess the climate of cyber-related experiences of sexual harassment and effects on adolescent girls [47]. The study also has limited generalizability to sexually active adolescent girls recruited from a single health center serving an underserved predominantly Hispanic community. While the current study had a small sample size, reducing the statistical power and ability to detect statistically significant associations, we found multiple significant findings. However, future work with larger and more diverse samples is needed, particularly to better understand how the frequency of witnessing sexual harassment affects adolescent girls. Finally, and as mentioned previously, the study is cross-sectional in nature, and thus, the temporality of associations cannot be determined. As these are correlational analyses, it may be that girls in environments where adolescents are engaging in substance use, or those contending with other issues that increase their depression and anxiety, may be more likely to be in more vulnerable social environments where sexual harassment behaviors are more normative. Future longitudinal study is warranted.

5. Conclusions

These limitations notwithstanding, this study documents that witnessing sexual harassment is associated with increased risks for substance use, depression, and anxiety among sexually active adolescent girls from a low-resource, predominantly Hispanic community in southern California. New to the literature, we found that witnessing sexual harassment is associated with these poor health outcomes even after accounting for direct experiences of sexual harassment among adolescent girls. The study findings highlight that witnessing sexual harassment was largely reported in public spaces (e.g. schools, neighborhoods, and public transport), such that girls cannot avoid risks without compromising their mobility or education. The findings suggest that efforts are needed to address the climate of sexual harassment in the immediate contexts of girls' lives, which may be creating a stressful context for girls and compromising their health and well-being. For example, given the pervasiveness of witnessing sexual harassment reported by this sample of young females, such efforts may involve reducing social norms that promote the acceptability of perpetrating these behaviors. Furthermore, given the high prevalence and frequency of sexual harassment reported in girls' everyday environments, future efforts are needed that support, rather than restrict, girls' freedom of movement.

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Data Availability Statement: The data presented in this study are available upon request from the corresponding author. The data are not publicly available due to the confidentiality of participant information.

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