Arch Sex Behav (2016) 45:671–681
DOI 10.1007/s10508-015-0571-8

ORIGINAL PAPER

The Relationship Between Sexual Activity and Depressive Symptoms in Lesbian, Gay, and Bisexual Youth: Effects of Gender and Family Support

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Received: 19 July 2013 / Revised: 29 April 2015 / Accepted: 9 May 2015 / Published online: 12 June 2015

Abstract There is considerable debate over whether adolescent sexual activity is maladaptive and associated with worse mental health outcomes versus a positive developmental milestone that is associated with better mental health outcomes. Although these perspectives are often pitted against one another, the current study employed a more integrative perspective: adolescent sexual activity may be maladaptive in certain contexts, but healthy in other contexts. We investigated whether family support and gender moderated the relation between sexual activity and mental health outcomes in a diverse sample of 519 lesbian, gay, and bisexual (LGB) youth. Specifically, we examined whether youth who engaged in more sexual activity would have fewer depressive symptoms in the context of a more supportive family environment, but more depressive symptoms in the context of a less supportive family environment and whether this effect was stronger for sexual minority girls. Consistent with the sexual health perspective, we found that among girls with more family support, those who engaged in more frequent same-sex sexual contact had lower levels of depressive symptoms. Unexpectedly, we found that among boys with more family support, those who engaged in more frequent same-sex sexual contact had higher levels of depressive symptoms. In contrast, girls and boys with less family support showed no relation between sexual activity and depressive symptoms. Overall, results suggest that context is critical when determining whether same-sex sexual contact among LGB youth should be considered maladaptive or beneficial.

Keywords Adolescence · Depression · Sexual orientation · Sexual activity · Family support

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Introduction

The effect of sexual activity on adolescents' emotional development and well-being has been heavily debated in scientific, political, educational, and religious forums (e.g., see Di Mauro & Joffe, 2007; Fine & McClelland, 2006; Gardner & Wilcox, 1993; Leclair, 2006). In one camp are individuals and organizations who believe that sexual activity in adolescence is harmful (e.g., Elliott & Morse, 1989; Giovacchini, 1986; Hajcak & Garwood, 1988; Jessor & Jessor, 1975; Schenker, 2000). In contrast, others have proposed that adolescent sexual activity should be conceptualized as a milestone in the course of healthy social and sexual development (Diamond & Savin-Williams, 2009; Ehrhardt, 1996; Russell, 2005; Tolman & McClelland, 2011; Udry, Talbert, & Morris, 1986; World Health Organization, 2006). Although these two perspectives may appear fundamentally at odds with one another, one possibility that has received relatively less attention is the notion that sexual activity can have a varied impact on adolescent well-being, depending on the social and emotional context in which it occurs.

Adolescent Sexuality as Maladaptive

The notion that sexual activity is maladaptive to adolescents' well-being is consistent with both academic and "folk" theories of the role of sexuality in human development. In modern times, the idea likely grows most commonly from the Judeo-Christian tradition which suggests that sexual activity should serve a procreative function and be confined to enduring adult relationships (e.g., see Regnerus, 2007; Schenker, 2000). Although rarely articulated explicitly, the implicit theory that accompanies this belief is that sex

holds a special power to create and seal emotional bonds between two people. Therefore, sexual experiences occurring between people who are unprepared to be fully committed to one another might create intense feelings that could lead to premature decisions about the importance of a relationship or to severe disappointment when relationships dissolve. Although rooted in religious traditions, this idea is broadly consistent with our scientific understanding of how cognitive functioning and emotion regulation develop throughout adolescence and young adulthood (Pestrak & Martin, 1985; Sandler, Watson, & Levine, 1992; Steinberg, 2008). To the extent that adolescents possess less well-developed skills for making good decisions and managing their emotional responses to situations, we would expect them to struggle more with sexual activity. A complementary theoretical perspective suggests that sexual activity may be maladaptive for youth because it often co-occurs with a constellation of other problematic behaviors. Problem behavior theory (Jessor & Jessor, 1975) suggests that vulnerabilities in personality (e.g., greater autonomy, sensitivity to rejection) and environment (e.g., low family support, negative peer influence) lead some youth toward conduct problems that include sexual behavior, substance use, and delinquency. These problematic behaviors, in conjunction with the vulnerabilities that produce them, all place adolescents at risk for depressive distress (Donenberg, Emerson, Brown, Houck, & Mackesy-Amiti, 2012; Waller et al., 2006).

A large body of research conducted predominantly with heterosexual youth has yielded results consistent with the theoretical notion that sexual behavior is maladaptive for adolescents. Cross-sectional studies have found that adolescents who engage in sexual activity are also more likely to report depressive symptoms (e.g., Hallfors et al., 2004; Kaltiala-Heino, Kosunen, & Rimpelä, 2003; Kosunen, Kaltiala-Heino, Rimpelä, & Laippala, 2003; Monahan & Lee, 2008; Rubin, Gold, & Primack, 2009; Shrier, Harris, Sternberg, & Beardslee, 2001). Similarly, longitudinal research typically finds that engaging in sexual activity increases risk for subsequent depressive symptoms (e.g., Spriggs & Halpern, 2008) whereas depressive symptoms do not increase risk for engaging sexual activity over time (e.g., Hallfors, Waller, Bauer, Ford, & Halpern, 2005; Jamieson & Wade, 2011). However, an important caveat to these studies is that they are typically unable to rule out the possibility that these relationships are not causal, but rather result from the effects of unmeasured third variables. In one study utilizing a large sample of adult sibling pairs, Mendle, Ferrero, Moore, and Harden (2013) demonstrated that the relation between sexual behavior and depressive symptoms was entirely explained by shared familial factors (i.e., genetics and family environment).

Adolescent Sexuality as Healthy

On the other hand, sexuality is a central aspect of being human and most individuals achieve sexual maturity in their lifetime. This process typically begins in adolescence with a cascade of biological changes that promote normative sexual development (e.g., Udry et al., 1986), co-occurring with a period in which adolescents learn to navigate the complexities of romantic and other social relationships. Hence, many scholars have theorized that sexual activity is a normal developmental milestone that has the potential to facilitate other social developmental processes (Diamond, 2006; Diamond & Savin-Williams, 2009; Ehrhardt, 1996; Russell, 2005; Tolman & McClelland, 2011). From this perspective, failure to achieve sexuality-related milestones within a normative timeframe can result in other social or emotional developmental challenges.

Consistent with the sexual health perspective, research has shown that adolescent sexual activity is associated with positive outcomes. For example, Vrangalova and Savin-Williams (2011) found that adolescents, ages 16–20, who had engaged in sexual activity had higher well-being than those who never engaged in sexual activity. Additionally, those whose sexual debut occurred "on time" (i.e., at age 16) had higher mental well-being than adolescents who had a late sexual debut (i.e., 17 or older). Sexual activity also has an acute positive effect on mood among adolescents (e.g., Fortenberry et al., 2005). Shrier, Koren, Aneja, and De Moor (2010) found that among sexually active adolescents ages 15–21, positive affect increased prior to and peaked during the reported time of sexual activity and negative affect decreased following sexual activity.

An Integrated Perspective on Adolescent Sexuality and Health

The "sexual health" and "sex is maladaptive" perspectives are often pitted against one another (e.g., see Kincaid, Jones, Sterrett, & McKee, 2012). Although scholars have encouraged integration of both perspectives (Tolman & McClelland, 2011; Zimmer-Gembeck & Helfand, 2008), the majority of empirical studies typically focus on only one of these perspectives. Integrating these perspectives requires a shift in focus from the question of whether sex is good or bad for adolescent health to the question, "for which adolescents and under what circumstances is sex healthy or maladaptive for adolescent development?" That is, understanding the context in which sexual activity occurs is likely critical to appreciating its implications for health.

Adolescents' understanding of sexual behavior is heavily socialized through parent, peer, and media influences (e.g., de Graaf, Vanwesenbeeck, Woertman, & Meeus, 2011; Ragsdale et al., 2013; Tolman & McClelland, 2011). These forces shape whether adolescents view sex as something to pursue, avoid, celebrate, or shame. Self-discrepancy theory posits that when differences exist between an individual's actual self and that which they believe is ideal or ought (i.e., socially sanctioned), psychological distress results (Higgins, 1987). Thus, self-discrepancy theory would suggest that the degree to which youth feel sexuality

is supported should interact with their sexual behavior to predict well-being. One population for which this phenomenon may be particularly salient is lesbian, gay, and bisexual (LGB) youth. Unlike other youth who might experience conflicting social pressures around the appropriateness of sexual behavior, LGB youth typically begin to explore their sexuality in a much different context, where same-sex sexual activity is heavily stigmatized and rarely supported. Thus, the degree of support they feel for the identities might have an even more profound influence on whether engaging in sexual activity is psychologically healthy or harmful.

For LGB adolescents, parents play a critical part in shaping the degree to which they come to accept their emerging sexual identities (e.g., see Kincaid et al., 2012). Parental acceptance and rejection have been shown to be strong predictors of various health outcomes among LGB youth (Bos, Sandfort, De Bruyn, & Hakvoort, 2008; Hershberger & D'Augelli, 1995; Rosario et al., 2014; Ryan, Huebner, Diaz, & Sanchez, 2009; Ryan, Russell, Huebner, Diaz, & Sanchez, 2010). Thus, it is plausible that parent support (or lack thereof) can shift the way that adolescents think about and understand their sexual behavior. At least one study of heterosexual youth suggests that this might be the case. Davila et al. (2009) found that sexual activity was related to depressive symptoms among girls with high parent–adolescent stress, but not among girls with low parent–adolescent stress.

Moreover, the degree to which family support differentiates whether sexual activity is related to better or worse mental health outcomes may differ among boys and girls. First, previous research has shown that sexual activity is more strongly associated with depressive symptoms in girls than boys (Spriggs & Halpern, 2008; Zimmer-Gembeck & Helfand, 2008). One potential explanation for these findings is girls' differential risks for depressive symptoms and feeling ambivalent about sex relative to boys. Research has widely documented that adolescent girls have higher risk for depressive symptoms than boys (e.g., Hankin et al., 1998). Additionally, girls are socialized to feel more ambivalent about sex (Ward, 2003) whereas boys are socialized to gain sexual experience (Longmore, Manning, Giordano, & Rudolph, 2004). Girls also appear to be more sensitive to familial influences in general well-being and sexual behavior. Girls tend to ascribe greater meaning to interpersonal connection and social bonding than boys (Feldman, Turner, & Araujo, 1999). This emphasis on interpersonal relationships may render the parent–child supportive relationship more salient for girls with regard to their social development and well-being. Indeed, research has found that among girls, but not boys, those with more parental rejection had more self-reported depression (Whitbeck, Hoyt, & Bao, 2000) and that familial interactions have a greater influence on girls' sexual behavior than boys' (e.g., Coley, Votruba-Drzal, & Schindler, 2009; Henrich, Brookmeyer, Shrier, & Shahar, 2006; Kan, Cheng, Landale, & Mchale, 2010). Hence, family support may more strongly differentiate whether sexual activity is related to more or less depressive symptoms for girls than boys.

The Current Study

The present study sought to differentiate whether adolescent sexual activity is maladaptive versus normative by examining family support and gender as moderating factors in sexual minority adolescents. Consistent with the perspective that sexual activity is healthy and normative, and with research suggesting that high levels of family support may enhance sexual development, we hypothesized that among adolescents with high levels of family support, those who engage in more sexual activity in the past 6 months will have less depressive symptoms. Second, consistent with the problem behavior theory and research suggesting that lower levels of family support put adolescents at risk for problematic behavior that results in depressive symptoms, we hypothesized that among adolescents with less family support, those who engage in more sexual activity will have more depressive symptoms. Third, consistent with prior research suggesting that girls may be more sensitive to relational contexts with regard to mental health outcomes, we hypothesized that the magnitude of the moderating effects of family support on the relation between sexual activity and depressive symptoms will be stronger for girls than for boys. For each hypothesis, we explore two separate operationalizations of sexual behavior: (1) same-sex debut (whether the adolescent has ever engaged in any same-sex sexual contact) and (2) the quantity of sexual behavior.[1] Additionally, because sexual minority stress mayaccount for the association between sexual activity and depressive symptoms, we controlled for various indices of minority stress (e.g., outness and internalized homophobia). Because we included bisexual participants, we further controlled for having ever engaged in other-sex sexual activity.

Method

Participants

Participants were adolescents (ages 14–19 years) who reported either a non-heterosexual sexual orientation (e.g., gay, lesbian, bisexual, queer) or engaging in same-sex sexual behavior within the past year. Transgender youth were excluded from the current

[1] By "quantity" of same-sex sexual contact we mean the average of the number of times participants engaged in several specific sexual behaviors over the past 6 months. Although sex is mostly typically defined as "sexual intercourse" among heterosexual populations, the normative definition of sex among LGBT populations encompass a wider variety of behaviors (e.g., it includes mutual masturbation). Hence, an ecologically valid measure of sexual activity among sexual minorities needs to take into account both the varied nature of sexual behaviors as well as the frequency of those various behaviors. Our measure gives weight to both the number of sexual episodes (an event where anything at all sexual occurred), but also to the varied nature of episodes (i.e., those episodes that included a greater variety of behaviors end up with more weight in the aggregate measure than those that included just a single behavior). Exploratory analyses utilizing other composite measures of sexual behavior yielded similar results in this sample.

study, as their low numbers (n = 44) would have made tests for moderation by gender infeasible. Originally, 290 boys and 244 girls participated in the study; 15 of these participants were excluded due to missing data. Table 1 shows demographics and descriptive statistics for the full and subsamples. Based on the ethnic breakdown of participants, "other" ethnicity included participants who identified as Hispanic (n = 34), Asian/Pacific Islander (n = 14), American Indian (n = 2), "other" (n = 11), or having multiple non-African American ethnicities (n = 57).

Procedure

Data were collected as part of the Diverse Adolescents Sexual Health (DASH) study, a cross-sectional assessment of a variety of health behaviors and outcomes reported by an ethnically diverse sample of LGB adolescents. Data collections procedures have been described in detail elsewhere (Thoma & Huebner, 2013). Briefly, adolescents were recruited from four cities (Indianapolis, IN; Boston, MA; Philadelphia, PA; and Oakland, CA). Participants completed the survey in a private room of a local community center serving LGB youth. The survey was administered using the Audio Computer Assisted Self-Interview (ACASI) program, which allows the interviewee to listen to questions through earphones. The increased privacy of the ACASI program elicits higher response rates from adolescents on sensitive topics such as sexuality (Supple, Aquilino, & Wright, 1999; Turner, Ku, Sonenstein, & Pleck, 1996). The study was approved by the Institutional Review Board at the investigators' home institution.

Measures

Outcome

Depressive symptoms were measured by calculating a composite mean score of 20 items from the Center for Epidemiologic Studies Depression Scale (CES-D) (Radloff, 1977). Items addressed dysphoric mood, vegetative symptoms, irritability, and hopelessness, answered on a 4-point Likert scale (0-never or rarely to 3-most or all of the time). The CES-D demonstrated strong internal consistency and reliability with previous adolescent samples (Roberts, Andrews, Lewinsohn, & Hops, 1990) and in the current sample ($\alpha = 0.90$).

Independent Variables

Family support was assessed with the Family subscale of the Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet, & Farley, 1988). Four items were rated on a 7-point Likert scale from 1 (very strongly disagree) to 7 (very strongly agree) (e.g., "I get the emotional help and support I need from my family"). This measure has demonstrated strong internal consistency and discriminant validity in urban adolescent samples

Table 1 Sample demographics and descriptive statistics

	Ever engaged in same-sex sexual activity[a]			Quantity of sexual activity[b,c]		Family support[a]		Depressive symptoms[a]	
	Yes n (%)	No n (%)	χ^2	M (SD)	*F*	M (SD)	*F*	M (SD)	*F*
Ethnicity			1.44		3.83*		<1		<1
Caucasian	138 (88.5)	18 (11.5)		0.15 (0.75)[f]		3.14 (1.15)		1.07 (0.61)	
African American	117 (84.2)	22 (15.8)		−0.06 (0.59)		3.16 (1.24)		0.95 (0.54)	
African American Multiracial	91 (87.5)	12 (11.7)		−0.15 (0.64)[f]		3.38 (1.23)		1.00 (0.62)	
Other	102 (86.4)	16 (13.6)		−0.01 (0.77)		3.22 (1.18)		1.01 (0.66)	
Sexual Orientation			11.32*		8.74*		<1		<1
Gay/Lesbian	302 (90.4)	32 (9.6)[d,e]		0.09 (0.69)[g]		3.22 (1.22)		0.99 (.60)	
Bisexual	119 (80.4)	29 (19.6)[d]		−0.22 (0.67)[g]		3.20 (1.17)		1.03 (.59)	
Other	29 (78.4)	8 (21.6)[e]		−0.04 (0.78)		3.11 (1.06)		1.07 (.69)	
City			7.2		3.25*		<1		<1
Boston	119 (88.1)	16 (11.9)		0.06 (0.73)		3.23 (1.23)		0.97 (0.62)	
Philadelphia	166 (88.8)	21 (11.2)		−0.13 (0.63)		3.20 (1.22)		0.99 (0.59)	
Indianapolis	113 (87.6)	16 (12.4)		0.07 (0.72)		3.21 (1.08)		1.07 (0.62)	
Oakland	52 (76.5)	16 (23.5)		0.13 (0.77)		3.19 (1.29)		1.03 (0.61)	

[a] Includes full sample, N = 519

[b] Includes only subsample of those who have ever had same-sex sexual contact, n = 450

[c] Variable is standardized within gender

[d,e,f,g] Groups with a shared superscript are significantly different from one another using Bonferroni adjusted post hoc comparison tests

*$p < .05$

(Canty-Mitchell & Zimet, 2000), as well as excellent inter-item reliability in the current sample ($\alpha = 0.93$).

Participants were asked whether or not they had ever engaged in same-sex sexual contact, which was defined as any genital sexual contact. The quantity of same-sex sexual contact was assessed by creating a composite measure of several same-sex sexual behaviors over the past 6 months. Adolescent girls were queried about the number of times they performed and received manual stimulation, oral sex, vaginal penetration, and anal penetration. Similarly, the quantity of sexual behavior of adolescent boys included performing and receiving manual stimulation, oral sex with and without ejaculation, and anal penetration with and without a condom. Participants chose from the following answers: 0 (0 times), 1 (1–2 times), 2 (3–10 times), and 3 (over 10 times). Adequate inter-item reliability was determined (for boys, $\alpha = 0.82$; for girls, $\alpha = 0.87$). Responses to various sexual behaviors were then averaged and these mean scores were standardized for each gender to control for the differences in the questions assessed for boys and girls.

Covariates

Participants were asked the age of their same-sex sexual debut, the number of same-sex sexual partners over the previous 6 months, whether they had ever engaged in other-sex sexual contact, and whether they currently had a same-sex romantic partner. To control for differences in participants openness of their sexual identity, "outness" was assessed by calculating composite mean score of how many immediate family members, school peers, and friends knew that a participant identified as LGB. We measured internalized homophobia using four questions from the Personal Negativity subscale of the Revised Homosexuality Attitude Inventory (Shidlo, 1994) and inter-item reliability was adequate ($\alpha = 0.73$).[2]

Results

Descriptives and Bivariate Associations

All analyses were conducted using multiple regression in SPSS 20.0. Table 1 shows descriptive statistics of the primary study variables across ethnicity, sexual orientation, and city of recruitment. Caucasian and gay/lesbian participants engaged in more frequent sexual contact than multiracial African American and bisexual participants, respectively. Bivariate correlations (Table 2) indicated that participants who had ever engaged in same-sex sexual contact showed lower levels of depressive symptoms, perceived more family support, had less internalized homophobia, and were more open with their sexual identity. Girls and boys showed no significant differences in having ever engaged in (84.5 % of girls, 88.5 % of boys). Girls showed higher levels of depressive symptoms ($M_{girls} = 1.06$, $SD_{girls} = 0.04$; $M_{boys} = 0.93$, $SD_{boys} = 0.03$) and perceived less family support ($M_{girls} = 3.07$, $SD_{girls} = 0.08$; $M_{boys} = 3.33$, $SD_{boys} = 0.07$) than boys.

Having Ever Engaged in Same-Sex Sexual Contact and Depressive Distress

First, we examined whether having ever engaged in same-sex sexual contact was associated with depressive symptoms, and whether this association differed by family support and participant gender, controlling for the abovementioned covariates.[3] Continuous variables were centered to construct two- and three-way interaction terms and entered hierarchically. All interactions were non-significant (all p's $> .20$), and thus dropped from the model. The resulting regression indicated that girls ($b = 0.14$, $SE = 0.05$, $\beta = 0.11$, $p = .01$) and adolescents who perceived having less family support ($b = -0.14$, $SE = 0.01$, $\beta = -0.27$, $p < .01$) had higher levels of depressive symptoms. Having ever engaged in same-sex sexual contact was not significantly associated with depressive symptoms ($b = -0.04$, $SE = 0.08$, $\beta = -0.02$).

Quantity of Same-Sex Sexual Contact and Depressive Distress

Next, we tested whether the association between quantity of same-sex sexual contact and depressive symptoms varied according to family support and gender in the same manner as above. We observed a significant three-way interaction between quantity of same-sex sexual contact, family support, and gender (Table 3). To elucidate this interaction, we probed effects across gender and tested simple slopes at 1 SD above and below the mean of family support. Figure 1 graphically depicts the results.

Among girls, the interaction between quantity of same-sex sexual contact and family support was significant (Table 3). Simple slopes tests indicated that among girls who had high levels of family support, those who had more frequent same-sex sexual contact had lower levels of depressive symptoms ($b = -0.15$, $SE = 0.06$, $\beta = -0.25$, $p = .01$), confirming our first hypothesis. Contrary to our second hypothesis, girls with low levels of family support did not show any association between quantity of sexual contact and depressive symptoms ($b = 0.03$, $SE = 0.07$, $\beta = 0.03$).

To probe the effects among boys, we reverse coded gender and recomputed interaction terms. We found a significant inter-

[2] We also examined whether religiosity was related to any of the sexuality variables or depressive symptoms. However, it was not and thus not utilized in any of the present analyses.

[3] Given the possibility for some of our covariates (e.g., number of sexual partners and romantic partner status) to substantively change our findings, we also conducted analyses excluding these covariates. Results of those analyses were substantively identical to those presented above.

Table 2 Means and correlations of outcome, predictors, and covariates

Variable	Mean (SD) or %	Correlations										
		2	3	4	5	6	7	8	9	10	11	12
1. Depressive ymptoms	1.01 (0.61)	−.36**	−.14**	.01	.05	.12**	−.15**	−.11*	−.13**	.35**	−.14**	−.14**
2. Family support	3.21 (1.20)	–	.17**	−.07	−.09	−.04	.08	.08	.17**	−.21**	.04	.11*
3. Ever had SS sexual ontact[a]	0.87 (0.34)		–	[c]	[c]	−.01	[c]	.29**	.24**	−.18**	.10*	.06
4. Quantity of SS sexual contact[b,d]	86.7 %			–	.31**	−.03	−.03	.29**	.25**	−.03	.13**	.00
5. Number of SS sexual partners[b,d]	3.24 (4.13)				–	−.06	−.11*	−.10*	.12**	.19**	.03	.25**
6. Ever had OS sexual contact[a]	48.2 %					–	−.10*	−.03	−.14**	.00	−.10*	−.35**
7. Age of SS debut[b]	13.30 (3.29)						–	.05	−.12**	−.09	.10*	−.04
8. Romantic partner[a]	34.9 %							–	.19**	−.15**	−.01	−.07
9. Outness	2.17 (1.22)								–	−.27**	.14**	.05
10. Internalized homophobia	1.97 (0.85)									–	−.05	.12**
11. Age	17.42 (1.35)										–	.10*
12. Male[a]	55.1 %											–

For all continuous variables, higher scores are indicative of more extreme values in the direction of the construct assessed

SS same-sex, *OS* other-sex

[a] Binary variables are coded as 0 and 1, where the value of 1 indicates the name of the variable and the percentage is the percent of participants whose value is 1

[b] Excluded those who had never engaged in same-sex sexual contact, n = 450

[c] Correlation was not computed as participants with no SS sexual contact necessarily had values of only zero for the correlating variables

[d] Variable measured in the past 6 months

* $p < .05$; ** $p < .01$

action between quantity of same-sex sexual contact and family support ($b = 0.06, SE = 0.03, \beta = 0.12, p = .04$). Results of simple slopes tests ran contrary to the third hypothesis that boys would show a similar but weaker moderation effect. Similar to girls, boys who had low or average levels of family support did not show a significant association between quantity of same-sex sexual contact and depressive symptoms ($b_{low} = -0.03$, $SE = 0.05$, $\beta = -0.04$; $b_{avg} = 0.04$, $SE = 0.04$, $\beta = 0.07$). Unexpectedly, we found that among boys who had high family support, those who had more frequent same-sex sexual contact had *higher* levels of depressive symptoms ($b = 0.11$, $SE = 0.05$, $\beta = 0.18$, $p = .03$). To elucidate this surprising finding, we ran several post hoc analyses, described below.

Clarifying the Findings: Post Hoc Analyses

To ensure that our findings were not explained by the fact that adolescents who engaged in more sexual activity also had a greater number of sexual partners, we re-ran the model with number of same-sex sexual partners as the main sexual variable. Results (Table 3) indicated that number of sexual partners did not explain our findings. We then considered differences in the relational context of sexual contact (women are more likely to engage in sexual activity in the context of a relationship, whereas men are more likely to pursue casual sex) (e.g., Blumstein & Schwartz, 1990; Meston & Buss, 2007; Peplau, 2003; Schmitt, Shackelford, & Buss, 2001). Although we did not measure the context of sexual interactions, we found that the correlation between having a romantic partner and engaging in sexual activity was higher in girls ($r = .45, p < .01$, 95 % CI [0.346, 0.543]) than boys ($r = .14$, $p = .026$, 95 % CI [0.002, 0.274]), suggesting that girls were likely having more sex in the context of a romantic relationship. Thus, we hypothesized that perhaps having sex outside of relationships was driving the association between activity and depression in boys with low family support. However, further post hoc analyses did not support this notion.

Next, we questioned whether qualitative differences in the function or meaning of same-sex sexual contact for boys and girls may have impacted our results (e.g., riskiness of contracting STIs, or ascribing different emotional meaning to activities unique to boys and girls). Thus, we selected a behavior that is similar for boys and girls—manual stimulation—and tested it as the predictor variable. Results were largely similar to prior analysis: a significant three-way interaction emerged ($b = 0.12$, $SE = 0.04$, $\beta = 0.19$, $p < .01$). Among girls with high levels of family support, frequency of manual stimulation was associated with less depressive symptoms ($b = -0.14, SE = 0.05, \beta = -0.25, p < .01$). The interaction between manual stimulation and family support among boys showed a similar trend as prior analysis, albeit not significant ($b = 0.05, SE = 0.03, \beta = 0.10, p = .08$). Among boys with high levels of family support, those who engaged in more frequent manual stimulation tended to have more depressive symptoms ($b = 0.09, SE = 0.05, \beta = 0.15, p = .07$). This suggests that our findings were not likely due to differences in sexual risk or meaning of sexual contact.

Table 3 Multiple regression modeling depressive symptoms as a function of quantity of same-sex sexual contact and family support

Sexual variable[b]	Quantity of SS sexual contact			Post hoc analysis: number of sexual partners		
	b	SE of *b*	*β*	b	SE of *b*	*β*
Male[a]	−0.14	0.08	−0.11*	−0.12	0.06	−0.10
Age	−0.04	0.02	−0.08	−0.03	0.02	−0.08
Ethnicity: African American	−0.12	0.07	−0.09	−0.13	0.07	−0.10
Ethnicity: AA multiracial	−0.08	0.07	−0.05	−0.08	0.07	−0.05
Ethnicity: other	−0.08	0.07	−0.06	−0.08	0.07	−0.05
Orientation: bisexual	−0.12	0.06	−0.09	−0.10	0.06	−0.08
Orientation: other	−0.12	0.11	−0.05	−0.13	0.11	−0.05
Outness	0.02	0.02	0.05	0.02	0.02	0.04
Internalized homophobia	0.22	0.03	0.31**	0.22	0.03	0.32**
Has ever engaged in OS sexual contact[a]	0.10	0.06	0.08	0.09	0.06	0.08
Has a SS romantic partner[a]	−0.09	0.05	−0.07	−0.08	0.05	−0.07
Age of SS sexual debut	−0.02	0.01	−0.09*	−0.02	0.01	−0.09*
Number of SS sexual partners[b]	0.00	0.01	−0.03	−0.02	0.02	−0.12
Quantity of SS sexual contact[b]	−0.10	0.05	−0.11			
Family support	−0.13	0.03	−0.26*	−0.15	0.03	−0.30**
Sexual variable × male[a]	0.17	0.07	0.14*	0.02	0.02	0.08
Family support × male[a]	0.00	0.04	0.00	0.01	0.05	0.02
Sexual variable × family support	−0.10	0.04	−0.15*	−0.01	0.01	−0.12
Sexual variable × family support × male[a]	0.19	0.06	0.19**	0.02	0.01	0.18

For all continuous variables, high scores are indicative of more extreme variables in the direction of the construct assessed

SS same-sex, *OS* other-sex

[a] Binary variables are coded as 0 and 1, where the value of 1 indicates the name of the variable and the percentage is the percent of participants whose value is 1

[b] Variable measured in the past 6 months

** $p < .01$; * $p < .05$

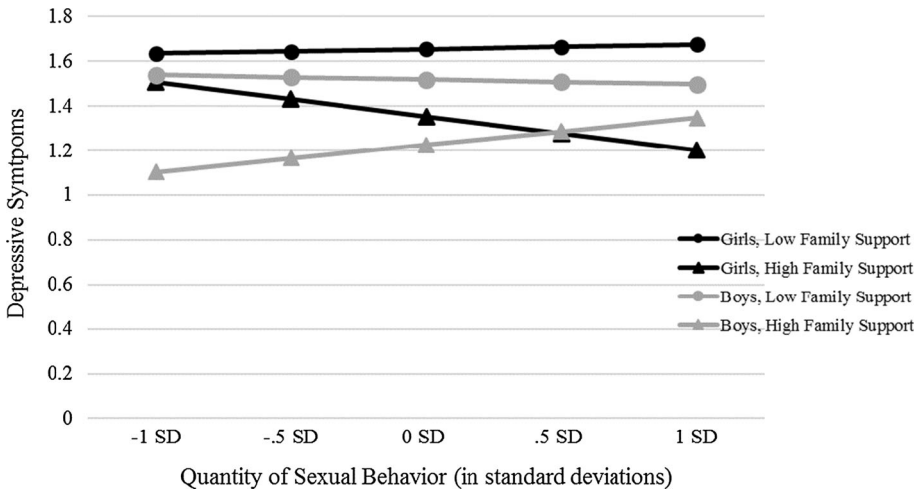

Fig. 1 Depressive symptoms as a function of the interaction between quantity of same-sex sexual contact, family support, and gender

Discussion

The current research investigated the contexts under which same-sex sexual contact would be associated with greater or fewer depressive symptoms. We found evidence consistent with both the "sexual health" and "sexual risk" perspectives, and that evidence varied as a function of the adolescent's gender and level of family support. Specifically, we found that among adolescents with high family support, girls who engaged in more frequent sexual contact showed less depressive symptoms whereas boys who engaged in more frequent sexual contact showed greater depressive symptoms.

The "Sexual Health" Perspective

Some of our results supported the "sexual health" perspective. Initial descriptive statistics indicated that LGB youth who had ever engaged in same-sex sexual contact appeared to have better psychosocial adjustment (lower levels of depressive symptoms, less internalized homophobia, more family support, etc.). For girls specifically, results corroborated our hypothesis that among youth with high levels of family support, sex represents a healthy, developmentally appropriate activity for adolescents. These results provide empirical support for the sexual health perspective, which suggests that individuals who engage in regular sexual activity have better physical health, better roman tic relationship quality, and higher mental well-being (Crockett, Raymond Bingham, Chopak, & Vicary, 1996; Diamond & Huebner, 2012; Horne & Zimmer-Gembeck, 2005; Zimmer-Gembeck, Ducat, & Boislard-Pepin, 2011). How sexual activity serves to enhance psychosocial adjustment may be an important direction for further investigation.

The current study suggests that feeling supported by one's parents appears to uniquely facilitate sexual minority girls' psychosexual development. This is consistent with previous research documenting that family support is an especially salient factor for LGB youth's mental well-being (Diamond et al., 2011) and provides a supportive context wherein sexual minority youth develop an understanding and integrate their sexual identity (Rosario, Schrimshaw, & Hunter, 2008). An obvious question follows: How does high family support facilitate the association between more sexual contact and less depressive symptoms? Navigating romantic relationships appears central for sexual minority youth's sexual development, as many sexual minority girls consider future same-sex relationships extremely important (D'Augelli, Rendina, Sinclair, & Grossman, 2007). Family support may facilitate sexual minority girls' willingness to share intimate details and dialogue about romantic and sexual relationships, allowing for greater support in successfully navigating same-sex romantic relationships. Understanding the mechanisms underlying how family support affects sexual activity and associated mental health outcomes will be an important direction for future work.

The "Sex is Maladaptive" Perspective

We also considered the perspective that sexual activity may be maladaptive under certain family dynamics. We argued that adolescents with low family support may not receive parental support in navigating and understanding their interpersonal and sexual relationships, and thus could express more ambivalence about sexual activity. Results failed to support this hypothesis: boys and girls with lower levels of family support showed no association between sexual activity and depressive symptoms. It is possible that because sexual minority youth's psychosocial adjustment is so dependent on family support (e.g., Bos et al., 2008; Ryan et al., 2009), low family support plays such a powerful role in depressive symptoms that other factors (such as sexual behavior) become less salient. However, a weakness with this explanation lies in the fact that, even at average levels of family support, we also saw no association between sexual activity and depressive symptoms.

Nonetheless, our data supported the "sex is maladaptive" perspective in an unexpected way: sexual contact was associated with worse mental health among boys with *high* levels of family support. Although we currently do not have a clear explanation for this finding, we tested several possibilities. We found that results were not driven by simply having ever engaged in sexual contact or by the number of sexual partners boys reported. Moreover, results did not appear to be explained by gender differences in the relational context of sexual activity, in the sexual meaning of specific behaviors, or in the frequency of specific sexual behaviors. One unexplored possibility may relate to parent–child communication about sex. Research suggests that more supportive parents provide more communication regarding sex with their children (e.g., see Jennifer, Muller, & Frisco, 2006). One interesting direction for future research would be to determine whether the type of communication differs for same-sex attracted boys than same-sex attracted girls. It is possible that supportive parents of boys might express greater concern about the potential for sexual behavior to lead to HIV or STD infection, resulting in boys feeling more ambivalent about their sexual activity. Hence, future work may examine how families with LGB children communicate about sex and whether the content of that communication changes how sexually activity is associated with mental health outcomes.

Limitations and Future Directions

This study's cross-sectional design limited our ability to determine the direction of the effects between depressive symptoms and sexual behavior. However, previous longitudinal research has indicated that the strongest effects appear to run from sexual activity to subsequent depressive symptoms (Spriggs & Halpern, 2008). Additionally, care should be taken in generalizing these findings with LGB youth to heterosexual adolescent samples, given that sexual minority youth's romantic activities may be influenced by different mechanisms (Bauermeister et al., 2010),

We did not assess the nature of sexual partners or other contextual factors involved in each encounter, limiting our ability to deconstruct the effects of casual sex from sex with romantic partners. Nor did we examine adolescents' attitudes or emotional valence about various types of sexual activities. Previous research has demonstrated that thoughts about romantic relationships and sexual activity can influence sexual health behaviors (e.g., Bauermeister, Ventuneac, Pingel, & Parsons, 2012). Moreover, the tempo and order of engaging in early and more advanced types of behaviors (e.g., starting with manual stimulation and progressing over time to oral sex) may be important for adolescent health

outcomes and our measure of sexual contact doesn't allow us to discern these effects.

The current study was not designed to address all the factors that differentiate whether sexual activity is maladaptive or healthy for LGB youth. Rather, a strength of the current study was its focus on two competing perspectives within the context of family support and gender. Future research would benefit from examining how additional contextual factors (e.g., context of sexual encounters, appraisal and attitudes of sexual encounters, developmental trajectory, peer interactions) influence the relation between sexual contact and depressive symptoms. The present study presents a first step in examining how familial contexts and gender influence the relation between sexual activity and depressive symptoms. One important avenue for future research is to address these factors in a more rigorous analysis (e.g., longitudinal design, controlling for type of sexual activity).

Conclusion

Regarding sexual activity, an attitude of "less is better" has prevailed across society (see Diamond & Huebner, 2012). Adolescent sexual behavior has been traditionally viewed as risky behavior, yet scholars are increasingly suggesting that sexual activity may facilitate psychosocial adjustment. The results of this study highlight that context is key when examining the relation between sexual activity and depressive symptoms among adolescents. Rather than focusing on *whether* adolescent sexual activity is maladaptive or healthy, a more pertinent question would be "For whom and under what circumstances is sexual activity risky versus healthy?"

Acknowledgments The authors would like to acknowledge Jordan Rullo, Jennifer Pritchard, and Karen Wohlleiter for their efforts in study coordination, as well as Laura Vaughn, Lida Rogers, Trevor Wright, and William Brown for their assistance with data collection. We are grateful to the Attic Youth Center, BAGLY, Indiana Youth Group, and the Sexual Minority Alliance of Alameda County for their cooperation in housing the project. This research was supported by grant MH072381 from the National Institute of Mental Health.

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