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To Whom Do College Women Confide Following Sexual Assault? A Prospective Study of Predictors of Sexual Assault Disclosure and Social Reactions

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What is This?

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Abstract

A prospective methodology was used to explore predictors of sexual assault disclosure among college women, identify who women tell about sexual victimization, and examine the responses of informal support providers (N=374). Women most often confided in a female peer. Increased coping via seeking emotional support, strong attachments, and high tendency to disclose stressful information predicted adolescent sexual assault disclosure and disclosure over the 7-month interim. Less acquaintance with the perpetrator predicted disclosure over the follow-up, including experiences of revictimization. Victim and perpetrator alcohol use at the time of the assault also predicted disclosure over the follow-up. Implications are presented.

Keywords

disclosure, sexual assault, social reactions

Introduction

College women are at especially high risk to experience various forms of sexual victimization, ranging from unwanted sexual contact to rape (American Academy of Pediatrics,

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2001; Humphrey & White, 2000; Sorenson, Stein, Siegel, Golding, & Burnam, 1987). Seminal research conducted by Koss, Gidycz, and Wisniewski (1987) found that 53.8% of college women reported some form of sexual victimization after the age of 14, including sexual contact (14.4%), sexual coercion (11.9%), attempted rape (12.1%), and rape (15.4%). Koss and her colleagues' data were collected almost 30 years ago; however, recent nationally representative surveys of college women suggest that rates of campusbased sexual assault remain high and relatively unaffected by awareness and prevention efforts (Fisher, Cullen, & Turner, 2000; Hingson, Heeren, Winter, & Wechsler, 2005). Alarmingly, over a 2- to 3-month period, between 16% and 32% of college women report experiencing some form of sexual victimization (Gidycz, Coble, Latham, & Layman, 1993; Gidycz et al., 2001; Gidycz, Hanson, & Layman, 1995; Gidycz, Rich, Orchowski, King, & Miller, 2006; Orchowski, Gidycz, & Raffle, 2008).

Despite the devastatingly high rates of sexual assault among women, sexual victimization is consistently documented to be one of the most underreported of all violent crimes (Tjaden & Thoennes, 2000, 2006). Data from the U.S. Department of Justice National Crime Victimization Survey document that of the 200,780 women who experienced rape or sexual assault from 2004 to 2005, only 38% reported the assault to the police (Catalano, 2006). Compared with community-residing women, college women are less likely to formally report sexual victimization to the police (see Fisher et al., 2000). Approximately 5% to 13% of college women who experience rape or attempted rape report the experience to the police (Fisher, Daigle, Cullen, & Turner, 2003; Fisher et al., 2000; Koss, 1988). Furthermore, 2.3% of women who experience unwanted sexual contact report the experience to the police (Fisher & Cullen, 1999). Approximately 17% of women who experience sexual assault report the incident to the campus police, campus security, or other campus agency (Sloan, Fisher, & Cullen, 1997). Assault-specific help-seeking behavior is also quite low among survivors of sexual violence. Studies of community-residing women suggest that 7% of sexual assault survivors seek help from a mental health care provider (Ullman, 1996a), and 5% to 10% of women seek assistance from rape crisis centers (Golding, Siegel, Sorenson, Burnam, & Stein, 1989). Low rates of sexual assault reporting and assault-specific help-seeking behavior among survivors are of high public health concern. Victims who do not seek assault-specific support services may not receive medical and mental health treatment following the assault (Ruch & Coyne, 1990; Ruch, Coyne, & Perrone, 2000). Not reporting an assault to the police may also preclude the investigation, apprehension, and conviction of perpetrators (Bachman, 1998).

In contrast to the relatively low rates of reporting sexual victimization to the police, studies of community-residing (Ahrens, Campbell, Ternier-Thames, Wasco, & Sefl, 2007; Baumer, 2004; Golding et al., 1989; Ullman & Siegel, 1995), adolescent (Kogan, 2004), and college women (Borja, Callahan, & Long, 2006; Fisher et al., 2003; Karen, Dunn, & Vail-Smith, 1999; Koss, 1985; Layman, Gidycz, & Lynn, 1996; Orchowski, Meyer, & Gidycz, 2009) document that many women disclose experiences of sexual victimization to an informal support provider. To be consistent with existing research, in this study we use the term *disclosure* to refer to the act of discussing an experience of sexual assault with someone, regardless of whether it is *officially recorded*, and the term *reporting* to refer to

the act of discussing sexual assault with the police, or another formal agency, to formally record the experience (see Fisher et al., 2003). According to the National College Women Sexual Victimization Study, 88% of college women disclosed experiences of sexual victimization to peers, 10% disclosed to family members, 4% disclosed to a campus authority, and 1% disclosed to a counselor (Fisher et al., 2003). Although these data are informative, limited work with college students exists where the characteristics, predictors, and consequences of disclosing sexual assault to informal support providers have been explored.

Problematically, the vast majority of research examining the correlates of sexual assault disclosure and the types of responses provided to survivors focuses on the process of reporting sexual assault to the police. Reporting sexual assault to the police is associated with high levels of anger toward the assailant (Ruch & Coyne, 1990), low levels of fear that the police will respond in a negative way (Fisher et al., 2000), sustaining an assault-related injury (Felson, Messner, & Hoskin, 1999; Hanson, Resnick, Saunders, Kilpatrick, & Best, 1999; Pino & Meier, 1999), use of force by the perpetrator (Bachman, 1993), the use of a weapon by the perpetrator (Koss & Harvey, 1991), the presence of multiple perpetrators (Gidycz & Koss, 1990), use of active resistance (Ruch et al., 2000), and less familiarity with the attacker (Greenfeld et al., 1998; Mahoney, 1999; McGregor, Wiebe, Marion, & Livingstone, 2000; Rennison, 2002; Ruback, Menard, Outlaw, & Shaffer, 1999). Fewer studies document the correlates of disclosure to an informal support provider; however, correlates include sustaining assault-related injuries (Starzynski, Ullman, Filipas, & Townsend, 2005; Ullman & Filipas, 2001) and believing that the disclosure will be helpful (Frazier & Burnett, 1994; Sudderth, 1998; Washington, 2001).

Researchers have also sought to examine the consequences of sexual assault disclosure. Between 25% to 75% of women who disclose sexual victimization report that they are responded to in a way that leaves them feeling hurt, that they were not believed, or that they were blamed for the experience (Campbell et al., 1999; Campbell & Raja, 1999; Campbell, Wasco, Ahrens, Sefl, & Barnes, 2001). Negative responses to disclosure of sexual assault are also referred to as the second injury to victims (i.e., "secondary victimization", Symonds, 1980), the second rape (Madigan & Gamble, 1991), or the second assault (Martin & Powell, 1994). In the current study, we use the term *negative social reactions*, as described by Ullman (2000), to refer to assault-specific responses to sexual assault disclosure that blame, stigmatize, or attempt to control the victim, distract the victim from discussing the assault, or demonstrate so much anger that the victim is distracted from focusing on her own needs (i.e., egocentric reactions). Even well-intentioned responses to disclosure, such as inquiring about details of the assault experience (e.g., "were you drinking") may inadvertently imply that the victim "should've known better" or that the survivor was to blame for the experience (Ahrens, 2006). Negative social reactions to sexual assault disclosure are associated with increased severity of the assault, increased level of perpetrator aggression, sustaining physical injury, increased frequency of disclosure, as well as disclosure to a formal support provider (Ullman, 2000; Ullman & Siegel, 1995; Ullman, Starzynski, Long, Mason, & Long, 2008).

Although secondary victimization is associated with greater psychological distress and poor adjustment (Davis, Brickman, & Baker, 1991; Ullman, 1996a), positive social

reactions to disclosure demonstrate both positive (Borja et al., 2006; Ullman & Siegel, 1995) as well as minimal to nonsignificant associations with adjustment (Davis et al., 1991; Ullman, 1996a). Women often receive a combination of different negative and positive responses to disclosure (Ullman & Filipas, 2001), and responses to disclosure may be perceived as either helpful or unhelpful, depending on the individual responding (for a review see Ullman, 1999). Broadly, the impact of various social reactions to disclosure varies as a function of *how* the recipient of disclosure responds as well as the significance of the recipient's relationship to the survivor (Borja et al., 2006; Ullman, 1996a). The frequency of the survivor's disclosure and the availability of other support figures can also influence the impact of a support provider's response to sexual assault disclosure (Golding et al., 1989).

The current research sought to extend existing research of help-seeking behavior among survivors of sexual victimization in several ways. First, given that the vast majority of research examining predictors of sexual assault disclosure has focused on women's disclosure to formal support providers, the present study extended examination of predictors of disclosure to focus on informal support providers. A second aim of the study was to document potential variations in social reactions to sexual assault disclosure among different informal support providers. Whereas several studies document differences between formal and informal providers' responses to disclosure (Filipas & Ullman, 2001; Kaukinen, 2004; Ullman, 1996b) and differences in the responses of various formal providers (Campbell et al., 2001), few studies examine the responses of various informal support providers (Mims & Chang, 1984). Third, given that the vast majority of research examining sexual assault disclosure has focused on community-residing women, the present study aimed to advance research by examining the characteristics, predictors, and responses to sexual assault disclosure among college women. A literature review revealed only one published study examining social reactions to disclosure of sexual victimization and subsequent adjustment among college women (Borja et al., 2006), and one investigation assessed college women's likelihood to disclose sexual assault to various support services (Orchowski et al., 2009). Fourth, the use of a prospective design also represents an improvement over the retrospective methodology of the vast majority of studies of sexual assault disclosure.

More specifically, this study sought to address three aims. The aims were examined with regard to college women's reports of experiences of sexual victimization from the age of 14 to the date of the baseline assessment (i.e., adolescent victimization) and with regard to experiences of sexual victimization occurring over the course of a 7-month follow-up. The first two aims of the study were descriptive in nature. The first aim of the study was to identify to whom college women confide following experiences of sexual victimization. The second aim of the study was to identify how various support providers responded to sexual assault disclosure. To examine these aims, participants indicated whether they disclosed experiences of sexual victimization to a mother, father, female peer, male peer, sibling, or other family member. Participants also completed the Social Reaction Questionnaire (SRQ; Ullman, 2000), which assesses the extent to which survivors receive various types of negative and positive responses to disclosure. For the purpose of the current study, the SRQ was modified to assess the responses to disclosure provided by each of

the aforementioned informal providers. As such, women completed a separate version of the SRQ with regard to each support provider to whom they confided.

The third aim of the study was to identify predictors of sexual assault disclosure. Analyses examine predictors of adolescent sexual assault disclosure as well as disclosure of sexual victimization occurring over the 7-month follow-up. Further additional analyses were conducted to explore predictors of disclosure of sexual revictimization among women with a history of adolescent sexual assault, who experienced revictimization over the follow-up period. A series of hypotheses were proposed. Among survivors of adolescent sexual victimization, it was hypothesized that

Hypothesis 1 (H1): Disclosure of sexual victimization would be associated with assault characteristics, likelihood to disclose personal information, as well as coping style and social support.

Among women victimized over the follow-up period, it was hypothesized that

Hypothesis 2 (H2): After controlling for a history of adolescent sexual assault, disclosure of sexual victimization would be associated with assault characteristics, likelihood to disclose stressful personal information, as well as coping style and social support.

Among women with a history of adolescent sexual victimization who were revictimized over the course of the study, it was hypothesized that

Hypothesis 3 (H3): Previous disclosure of sexual victimization would predict disclosure of sexual victimization over the interim.

Furthermore, it was hypothesized that

Hypothesis 4 (H4): Assault characteristics, likelihood to disclose, as well as coping and social support would predict disclosure of sexual revictimization after controlling for disclosure of adolescent sexual assault.

Method

Participants

Participants consisted of 374 undergraduate women who volunteered to participate in a larger study examining the effectiveness of sexual assault prevention and risk reduction programming. To be eligible for the study, women needed to be living in a 1st-year residence hall. The study was conducted in 12 campus residence halls, 6 of which were randomly assigned to the control group arm of the study. Only responses from women living

in residence halls randomly assigned to the control group were used in the present study. Of the women who volunteered for this study, none declined to participate.

The majority of women were 18 or 19 years old (n = 367, 98.1%) and identified as nonmarried (n = 369, 98.7%). Whereas more than 25% of women indicated that they did not know their annual family income (n = 86), 8% of women reported annual family incomes that were US\$50,000 or less (n = 69), 32.3% reported their annual family income to be between US\$50,000 and US\$100,000 (n = 121), and 26% reported their annual family income to be over US\$100,000 (n = 88). Consistent with the demographics of the university, 94% of women identified as White (n = 353), 2.9% as African American (n = 11), 0.3% as Asian American (n = 11), 0.3% as American Indian or Alaska Native (n = 1), 0.8% as Native Hawaiian or Pacific Islander (n = 3), and 1.3% listed "other" as their race (n = 5). The majority of participants identified as heterosexual (n = 367, 98.7%).

Measures

Participant characteristics. Participant characteristics were assessed via a brief demographics questionnaire. The questionnaire collected relevant personal information, including age, family income, race, and marital status.

Sexual victimization. Unwanted sexual experiences were assessed through the Sexual Experiences Survey (SES; Koss & Oros, 1982). The survey includes a series of 10 behaviorally specific questions that assess sexual behavior across several dimensions. When administered at baseline, the survey assessed unwanted sexual experiences from the age of 14 to the baseline assessment (i.e., adolescent sexual victimization). When administered at the follow-up assessment, the survey assessed unwanted sexual experiences over the interim. Experience of adolescent sexual victimization and sexual victimization over the interim was classified according to the most severe experience reported, ranging from unwanted sexual contact, sexual coercion, attempted rape, and rape. The SES is commonly used in studies of sexual victimization and demonstrates good reliability (Koss & Gidycz, 1985) and validity (Gylys & McNamara, 1996). Cronbach's alpha for the scale was .72 at baseline.

Assault characteristics. Participants who indicated experiences of sexual victimization completed a series of follow-up questions indicating the characteristics of the assault. One variable assessed victim alcohol and/or drug use at the time of the assault (i.e., 0 = not using alcohol and/or drugs; 1 = using alcohol and/or drugs). A separate item assessed the victim's report of alcohol and/or drug use by the perpetrator at the time of the assault (i.e., 0 = not using alcohol and/or drugs; 1 = using alcohol and/or drugs). One question assessed women's conceptualization of the assault (i.e., 1 = not victimized; 2 = serious miscommunication, 3 = sexual assault, date rape, rape, or other crime). One item assessed women's level of acquaintance to the perpetrator, ranging from did not know at all to extremely well acquainted (i.e., 1 = did not know at all; 2 = slightly/moderately acquainted; 3 = very well acquainted; 4 = extremely well acquainted).

Tendency to disclose. Tendency to discuss problematic experiences with others was assessed with the Distress Disclosure Index (Kahn & Hessling, 2001). Items reflect tendency to discuss problematic experiences with others, for example, "When something

unpleasant happens to me, I often look for someone to talk to." Responses are provided along a 5-point scale, ranging from *strongly disagree* to *strongly agree*. Higher scores reflect higher tendency to disclose stressful experiences to others. Kahn and Hessling (2001) reported that the scale demonstrates good reliability and validity. Cronbach's alpha for the scale at baseline was .92.

Social support. Participants' perceptions of the quality and presence of various domains of social support were assessed with the Social Provisions Scale (Curtona & Russell, 1987). Participants respond to items such as, "There are people I know will help me if I really need it," along a 4-point continuum, ranging from *strongly disagree* to *strongly agree*, with higher scores reflecting higher perceptions of social support. Factor analyses suggest that the scale provides a good measure of global social support, as well as subtypes of social support. The subscale measuring attachments to others was used for the current study. Curtona and Russell (1987) reported that the scale demonstrates adequate reliability and validity. Cronbach's alpha for the subscale at baseline was .74.

Coping strategies. Tendency to engage in various domains of coping skills was assessed with the Coping Strategy Indicator (Amirkhan, 1990). For the purpose of the current study the coping via emotional support subscale (e.g., "Confided your fears and worries to a friend or relative") and coping via avoidance subscale (e.g., "Tried to distract yourself from the problem") were used. Items are responded to along a 3-point continuum, ranging from a lot to not at all, and scores are reverse coded such that higher scores indicate more frequent use of each coping strategy. Amirkhan (1990) reported that the subscales of the Coping Strategies Indicator demonstrate good reliability and validity. Cronbach's alpha for the coping via emotional support and coping via avoidance subscales at baseline were .93 and .80, respectively.

Social reactions to sexual assault disclosure. Assault-specific reactions to disclosure of sexual victimization at baseline and over follow-up periods were assessed through the Social Reactions Questionnaire (SRQ; Ullman, 2000). The 48 items are summed to create 5 subscales relating to negative social reactions, including (a) Controlling; (b) Blaming; (c) Treating You Differently (i.e., stigmatizing reactions); (d) Distraction (i.e., not allowing the woman to discuss the experience); and (e) Egocentric Behavior (i.e., the support figure addresses their own needs), and 2 subscales relating to positive social reactions, including (a) Emotional Support and (b) Information and Tangible Aid. Women completed separate versions of the SRQ in reference to each informal support figure disclosed to (i.e., mothers, fathers, siblings/other family members, male peers, or female peers). For each administration of the scale, a mean score was created for the five subscales relating to negative social reactions and for the two subscales relating to positive social reactions. Ullman (2000) reported that the reliability and validity for the scale are high. At baseline, Cronbach's alpha for the subscales ranged from .84 to .98.

Procedure

Data were collected at a medium-sized Midwestern University in the context of a larger study examining the effectiveness of sexual assault risk reduction and prevention programming for college women and men, respectively. The preventative intervention, titled the Community Programming Initiative, administered separate sexual assault prevention and risk reduction programs concurrently to college men and women living in the same 1st-year residence halls. The goal of the program was to foster communitybased change to decrease rates of sexual assault (Gidycz, Orchowski & Berkowitz, 2011). A total of 12 residence halls were randomly selected to participate in the Community Programming Initiative. Selection of residence halls was stratified by size, such that an array of small-, medium-, and large-sized residence halls were randomly selected for inclusion in the study. Each residence hall was randomly assigned to participate in a dual-pronged sexual assault programming group or to participate in the wait-list control group. In the program group, men and women participated in specifically tailored sexual assault prevention and risk reduction programs, respectively. In the wait-list control group, men and women only completed questionnaires. All questionnaires for men and women were administered by a trained male or female research assistant, respectively. The study was advertised via posters within the residence halls as well as email and personal correspondence from research and Residence Life staff. The study was advertised as a survey of dating and social experiences.

No participants were eliminated from the study due to missing or incomplete data. Three cohorts of participants were recruited to participate in the study over the course of two academic years. Data were collected at baseline, 4-month follow-up, and 7-month follow-up sessions. At baseline, participants reported on key outcome variables (i.e., coping skills, likelihood to disclose stressful information), allowing for an assessment of participants' attitudes prior to assault experiences occurring over the 4-month interim. Participants in the wait-list control group received US\$20 at each assessment for completing questionnaires. Of the 374 women in the control group who participated in the baseline assessment, 91.4% participated in a follow-up session and were included in the present study (n = 342).

Results

Aim 1:To Whom Do College Women Confide Following Sexual Assault?

Disclosure of adolescent sexual victimization. Unwanted sexual experiences from the age of 14 to the time of the baseline assessment were reported by 35.8% (n = 134) of the participants. Fifteen percentage of women reported experiences of unwanted sexual contact (n = 56), 2.9% reported experiences of sexual coercion (n = 11), 9.6% reported experiences of attempted rape (n = 36), and 8.3% reported experiences of completed rape (n = 31). According to the victims' report, 97% of the assaults were perpetrated by someone known to the victim (n = 130), and 63% of perpetrators (n = 65) and 55% of victims (n = 57) were consuming alcohol and/or drugs at the time of the assault. Among women with a history of sexual victimization, 74.6% (n = 100) discussed the experience with someone. Eleven percentage disclosed to their mother (n = 11), 5% disclosed to their father (n = 5), 17% disclosed to their siblings/other family members (n = 17), 36% disclosed to a male peer

(n = 36), and 86% disclosed to a female peer (n = 86). Of the 83 women who remembered when they disclosed, 15.6% disclosed immediately (n = 13), 39.7% disclosed the next day (n = 33), 12% disclosed within a week (n = 10), 12% disclosed within 30 days (n = 10), 16.8% disclosed within a year (n = 14), and 3.6% waited over a year to disclose (n = 3). Although not the focus of the present study, it was notable that only 8% of women disclosed to a formal support provider (n = 8).

Disclosure of sexual victimization over the follow-up. Of the women who completed the 4-month or 7-month follow-up, 19.6% experienced some form of sexual victimization over the interim (n = 67). In cases where a participant experienced sexual victimization over both follow-up periods, data referring to the most severe assault experience were used. Ten percentage experienced unwanted contact (n = 34), 2.6% experienced sexual coercion (n = 9), 3.5% reported experiences of attempted rape (n = 12), and 3.5% reported experiences of rape (n = 12). Ninety-five percentage of the assaults were perpetrated by someone known to the victim (n = 64). According to the victims' report, 70% of perpetrators (n = 47) and 68.8% of victims (n = 46) were consuming alcohol and/or drugs at the time of the assault. Approximately 55% (n = 37) of the women discussed the experience with someone. Specifically, 13.5% disclosed to their mother (n = 5), 10.8% disclosed to siblings/other family members (n = 4), 45.9% disclosed to a male peer (n = 17), 94.5% disclosed to a female peer (n = 35). All of the women who reported disclosing sexual victimization remembered when they disclosed the experience. Approximately 19% disclosed immediately (n = 7), 51.4% disclosed the next day (n = 19), 21.6% disclosed within a week (n = 8), and 8.1% waited over 2 weeks to disclose (n = 3). Although formal support providers were not the focus of the current study, it was notable that only two women disclosed to a formal support provider.

Aim 2: How Do Support Providers Respond to Sexual Assault Disclosure?

Social reactions to adolescent sexual assault disclosure. Within each type of support provider (i.e., mother, sibling/other family member, male peer, female peer), a series of 21 paired sample *t*-tests of examined potential variation in responses to disclosure of adolescent sexual victimization. The Holm (1979) procedure was used to control for inflations in familywise error across each series of analyses. In this step-down method, the significance values (i.e., *p* values) are ordered from smallest to largest. The significance value of lowest probability is first tested against an alpha value adjusted via a Bonferroni correction accounting for analyses. In sequence from smallest to largest, the significance values are then each tested against alpha values adjusted via a Bonferroni correction that accounts for one less analysis.

Women did not report disclosing experiences of adolescent sexual victimization to their father (N = 5) with sufficient frequency to explore variations in the type of social reaction provided. Means and standard deviations are provided in Table 1. Female peers responded with more distraction than controlling decisions, blame, or treating the survivor differently, t(84) = 4.37, p < .004; t(84) = 3.07, p < .004; t(84) = 5.02, p < .004. Female peers provided

Table 1. Social Reactions to Disclosure From Informal Support Providers

	Emotional support (M, SD)	Tangible aid (M, SD)	Distraction (M, SD)	Controlled decisions (M, SD)	Treated differently (M, SD)	Blame (M, SD)	Egocentric behavior (M, SD)
Mother							
Adolescent assault (N = 11)	2.58, 1.08	2.03, 1.36	0.39, 0.42	0.43, 0.47	0.45, 0.67	0.76, 0.99	0.84, 0.89
Assault over interim $(N = 5)$	1.22, 1.41	0.84, 1.17	0.08, 0.19	0.67, 1.32	0.48, 0.97	0.33, 0.75	0.50, 0.77
Father							
Adolescent assault $(N = 5)$	2.70, 0.43	2.44, 1.15	0.42, 0.40	0.51, 0.32	0.64, 0.67	0.67, 1.13	1.45, 0.84
Assault over interim $(N = 0)^a$	_	_	_	_	_	_	_
Other family member	/sibling						
Adolescent assault $(N = 17)$	1.27, 1.32	0.58, 0.86	0.35, 0.60	0.26, 0.39	0.16, 0.40	0.33, 0.63	0.60, 0.81
Assault over interim $(N = 4)$	_	_	_	_	_	_	_
Male peer							
Adolescent assault $(N = 48)$	1.96, 1.40	0.69, 0.95	0.71, 0.81	0.36, 0.60	0.30, 0.63	0.45, 0.81	0.88, 0.93
Assault over interim $(N = 17)$	1.15, 1.38	0.13, 0.28	0.53, 0.84	0.14, 0.31	0.34, 0.65	0.44, 1.10	0.57, 0.87
Female peer							
Adolescent assault (N = 85)	1.92, 1.29	0.60, 0.84	0.71, 0.80	0.41, 0.64	0.32, 0.67	0.42, 0.80	0.50, 0.76
Assault over interim $(N = 35)$	1.58, 1.34	0.45, 0.72	0.74, 1.03	0.41, 0.64	0.38, 0.74	0.48, 0.89	0.43, 0.68

^aMeans and standard deviations not reported for cells where N < 5.

more information/tangential aid compared with treating the survivor differently, t(84) = 3.34, p < .004. Female peers also demonstrated more emotional support than information/tangential aid, treating the survivor differently, blame, controlling decisions, egocentric behavior, or distraction, t(84) = 10.56, p < .004; t(84) = 11.15, p < .004; t(84) =10.46, p < .004; t(84) = 11.17, p < .004; t(84) = 11.88, p < .004; t(84) = 10.25, p < .004.Male peers responded with more distraction than control, t(47) = 3.80, p < .003, and more egocentric behavior compared with controlling decisions or treating the survivor differently, t(47) = 4.17, p < .003; t(47) = 4.04, p < .003. Male peers also demonstrated more emotional support than information/tangible aid, treating the survivor differently, blame, controlling decisions, egocentric behavior, or distraction, t(47) = 7.10, p < .003; t(47) = 7.65, p < .003; t(47) = 7.12, p < .003; t(47) = 8.16, p < .003; t(47) = 7.49, p < .003; t(47) = 7.44, p < .003. Siblings/other family members provided more emotional support compared with blame t(16) = 3.59, p < .002. Mothers responded with more information/ tangible aid than distraction, treating the survivor differently or controlling decisions, t(10) = 4.14, p < .003; t(10) = 4.26, p < .003; t(10) = 4.14, p < .003. Mothers also demonstrated more emotional support than distraction, egocentric behavior, controlling decisions,

differential treatment or blame, t(10) = 8.02, p < .003; t(10) = 5.45, p < .003; t(10) = 7.29, p < .003; t(10) = 5.50, p < .003; t(10) = 4.50, p < .003.

Social reactions to disclosure of sexual victimization over the follow-up. For each type of support provider (i.e., male peer, female peer), a series of 21 paired sample t-tests of examined potential variation in the type of social reaction provided. The Holm (1979) procedure was used to control for inflations in familywise error across each series of analyses. Women did not disclose experiences of sexual victimization over the follow-up to siblings/other family members (N = 4), mothers (N = 5), fathers (N = 0) with sufficient frequency to examine variations in social reactions within these providers. Female peers responded to disclosure of sexual victimization over the follow-up with more emotional support than distraction, egocentric responses, controlling decisions, information/tangible aid, treating the survivor differently, or blame, t(34) = 5.46, p < .002; t(34) = 7.15, p < .002; t(34) = 6.65, p < .002; t(34) = 6.95, p < .002; t(34) = 6.54, p < .002; t(34) = 5.60, p < .002.

Aim 3: What Predicts Disclosure of Sexual Assault Among College Women?

Predictors of adolescent sexual assault disclosure. To examine predictors of adolescent sexual victimization disclosure, the 134 women who reported a history of sexual assault were classified as to whether they disclosed or did not disclose the experience. Disclosure of sexual victimization served as the dependent variable (i.e., 0 = did not disclose; 1 = told someone about the assault). A series of odds ratios (ORs) were calculated using logistic regression analyses (H1). Three types of predictor variables were examined, including assault characteristics, coping and social support, and tendency to disclose stressful information. Data indicated that higher levels of coping via emotional support predicted disclosure of adolescent sexual victimization, $G^2(2, N = 132) = 8.76$, p < .005, Nagelkerke $R^2 = .10$. Tendency to disclose distressing information demonstrated a positive association with disclosure of adolescent sexual victimization, $G^2(2, N = 132) = 5.58$, p < .02, Nagelkerke $R^2 = .06$. Attachments to others also demonstrated a positive association with disclosure of adolescent sexual victimization, $G^2(2, N = 132) = 6.00$, p < .02, Nagelkerke $R^2 = .07$. ORs are presented in Table 2.

Predictors of sexual assault disclosure over the follow-up. To examine predictors of sexual assault disclosure over the follow-up, the 67 women who reported experiences of sexual assault over the interim were classified as to whether they disclosed or did not disclose the experience. A series of partial *OR*s were calculated using multivariate logistic regression analyses to examine the relationship between predictor variables and disclosure of sexual victimization over the follow-up, after controlling for history of adolescent assault (H2). History of adolescent sexual assault was included as an independent variable to account for the role of prior victimization in likelihood to disclose subsequent assault experiences.

Accounting for history of adolescent sexual assault, disclosure of sexual assault over the follow-up was associated with victim alcohol use at the time of the assault, $G^2(2, N=67)=15.09$, p < .01, Nagelkerke $R^2=.27$. Accounting for adolescent sexual victimization, alcohol use by the victim predicted disclosure over the follow-up, Wald $\chi^2(1, N=67)$

Table 2. Odds Ratios Between Assault Characteristics and Disclosure of Sexual Victimization

	Me	Measures of assault characteristics	characteristic	S.	Measures of coping, social support, and likelihood to disclose	ing, social supp disclose	port, and likelik	lood to
	Victim substance use	Perpetrator substance use	Labeling of the assault	Level of acquaintance	Coping via emotional support	Coping via Aavoidance	Coping via Attachments Tendency avoidance to others to disclose	Tendency to disclose
Adolescent ^a Follow-up ^b	1.67	1.64	1.64	.94	1.12**	1.03	1.23*	1.05*
Odds ratio	5.17**	8.00**	1.67	<u>*</u>	1.13*	0.99	1.39*	1.05*
$Partial\ odds^{c}$	7.88**	**96:11		.39**	*4.		1.34*	1.05*
Nagelkerke R ²	.27	.34		.27	61.	I	<u>8</u> -	<u>.</u>
Revictimization ^d								
Odds ratio	3.27	4.36	1.73	* 44 .	3*	0.93	1.26	1.02
Partial odds ^e	I	I		.45*	1.09			
Nagelkerke R ²	1	1	I	.34	.25	I	Ι	I

^aDisclosure of adolescent sexual victimization.

^bDisclosure of sexual victimization over the follow-up.

Partial odds ratio between predictor variable and disclosure of sexual victimization over the follow-up after controlling for history of sexual assault.

^dSexual revictimization over the follow-up.

Partial odds ratio between predictor variable and disclosure of sexual revictimization after controlling for disclosure of adolescent sexual assault. *p < .05. **p < .01. = 10.08, p < .002, partial OR = 7.88. Accounting for alcohol use by the victim, adolescent sexual assault demonstrated a negative relationship to disclosure over the follow-up, Wald $\chi^2(1, N = 67) = 5.49$, p < .05, partial OR = 0.64. Accounting for history of adolescent sexual assault, sexual assault disclosure over the follow-up was also associated with perpetrator alcohol use at the time of the assault, $G^2(2, N = 67) = 19.23$, p < .001, Nagelkerke $R^2 = .34$. Accounting for history of adolescent sexual victimization, alcohol use by the perpetrator was positively associated with disclosure over the follow-up, Wald $\chi^2(1, N = 67) = 12.04$, p < .002, partial OR = 11.96. Accounting for alcohol use by the perpetrator, adolescent sexual assault was negatively associated with sexual assault disclosure over the follow-up, Wald $\chi^2(1, N = 67) = 5.94$, p < .05, partial OR = 0.62. Accounting for adolescent sexual victimization, disclosure over the follow-up was also associated with the level of acquaintance with the perpetrator, $G^2(2, N = 67) = 15.33$, p < .001, Nagelkerke $R^2 = .27$. Accounting for adolescent sexual victimization, level of acquaintance with the perpetrator demonstrated a negative relationship with disclosure over the follow-up, Wald $\chi^2(1, N = 67) = 10.25$, p < .002, partial OR = 0.39.

Accounting for assault history, disclosure of sexual assault over the follow-up was also associated with likelihood to disclose stressful information, $G^2(2, N = 67) = 7.36, p < .05$, Nagelkerke $R^2 = .14$. Accounting for adolescent assault history, likelihood to disclose stressful information was positively associated with sexual assault disclosure over the follow-up, Wald $\chi^2(1, N=67) = 3.95$, p < .05, partial OR = 1.05. In the full model, history of prior assault did not maintain a significant association with disclosure over the followup. Accounting for assault history, disclosure over the follow-up was also associated with coping via emotional support, $G^2(2, N = 67) = 10.20, p < .007$, Nagelkerke $R^2 = .19$. Accounting for history of adolescent sexual victimization, coping via seeking emotional support was positively associated with disclosure over the follow-up, Wald $\chi^2(1, N=67)$ = 6.11, p < .05, partial OR = 1.14. Accounting for coping via emotional support, history of adolescent sexual victimization was not significantly associated with disclosure. In the presence of history of adolescent sexual victimization, disclosure of sexual assault over the follow-up was predicted by attachments to others, $G^2(2, N=67) = 9.51, p < .01$, Nagelkerke $R^2 = .18$. Accounting for history of adolescent sexual victimization, attachments to others was positively associated with disclosure of sexual victimization over the follow-up, Wald $\chi^2(1, N=67) = 4.94, p < .05$, partial OR = 1.34. In the full model, prior assault history was not significantly associated with disclosure over the follow-up.

Predicting disclosure of sexual revictimization. A chi-square analysis was conducted to address the hypothesis that previous disclosure of sexual victimization would predict disclosure of sexual assault among women who were revictimized over the interim (H3). Only women who reported both adolescent sexual victimization and victimization over the follow-up were included in the analysis. Disclosure of adolescent sexual victimization was associated with disclosure of sexual victimization over the follow-up period, $\chi^2(1, N = 44) = 7.01$, p < .01. Twenty percentage of women who did not disclose adolescent sexual victimization disclosed an experience of sexual revictimization over the interim (n = 3). Sixtytwo percentage of women who disclosed adolescent sexual victimization disclosed an experience of sexual revictimization that occurred over the interim (n = 18).

Partial ORs were calculated using a series of multivariate logistic regression analysis to examine predictors of disclosure of sexual revictimization, after controlling for prior sexual assault disclosure (H4). Accounting for prior disclosure of sexual victimization, disclosure of revictimization over the interim was predicted by level of acquaintance with the perpetrator, $G^2(2, N=44)=13.01, p<.002$, Nagelkerke $R^2=.34$. Accounting for prior disclosure of adolescent sexual victimization, lower level of acquaintance with the perpetrator predicted disclosure of sexual revictimization, Wald $\chi^2(1, N=43)=5.02, p<.05$, partial OR=.45. In the presence of level of acquaintance with the perpetrator, prior disclosure of adolescent sexual victimization predicted disclosure of sexual revictimization, Wald $\chi^2(1, N=44)=6.32, p<.05$, partial OR=6.32. Whereas coping via emotional support was positively associated with disclosure of sexual revictimization, $G^2(2, N=44)=4.56, p<.05$, Nagelkerke $R^2=.13$; this relationship was no longer significant after accounting for prior disclosure of adolescent sexual victimization.

Discussion

Understanding the factors that facilitate survivors' ability to "break the silence" regarding experiences of violence plays a key role in dismantling the relational, institutional, and societal factors that silence or shame survivors of sexual victimization. This study advances existing research examining the process of sexual assault disclosure in several ways. The current study identified, in both retrospective and prospective analyses, factors associated with the disclosure of sexual victimization among college women. As the vast majority of studies examining disclosure of sexual victimization are retrospective in nature, the use of a prospective methodology represents an important extension of this area of research. Furthermore, college women are at high risk for sexual victimization. However, compared with studies examining community-residing women, relatively little research has examined the process of sexual assault disclosure in this high-risk group. These data therefore address an important gap in this area of research.

In this study of college women, disclosure of sexual victimization most often occurred immediately, or in the first few weeks following an assault. These data are consistent with Ullman and Filipas's (2001) community-based survey of 323 women with a history of sexual victimization, in which 30% of women disclosed the experience and 29% of women disclosed the experience within several weeks of the assault. Women with a prior history of disclosing adolescent sexual victimization were also six times more likely to disclose when revictimized compared with women who did not disclose adolescent sexual victimization. Notably, however, a sizable proportion of women with a history of adolescent sexual victimization (25%) as well as women who experienced sexual victimization over the follow-up (45%) did not tell anyone about the experience. Whereas feminist activism has made considerable strides to increase awareness of sexual victimization (Rozee & Koss, 2001), these data suggest that continued outreach is needed in order to continue to "break the silence" surrounding sexual victimization.

The first aim of this research was to describe in whom college women confide regarding experiences of adolescent sexual victimization, and victimization over a 7-month

follow-up. The vast majority of women who disclosed adolescent sexual victimization (85%) or experiences of sexual victimization over the interim (95%) confided in a female peer. Among women who disclosed sexual victimization, less than 15% of women who experienced adolescent sexual victimization over the interim told a parent about the experience. It is concerning that so few women disclosed experiences of adolescent sexual victimization to parents, given that these experiences occurred when women were as young as 14 years of age. However, low rates of sexual assault disclosure to parents among college women are somewhat less surprising, given that women attending residential institutions of higher education spend vastly more time with their peers, compared with their parents (Osgood & Lee, 1993). During emerging adulthood (i.e., age 18-24; Arnett, 1992), women are generally more likely to disclose information to their peers compared with family members (Pistella & Bonati, 1998), and report feeling more comfortable doing so (DiIorio, Kelley, & Hockenberry-Eaton, 1999). Furthermore, college women are also at an age where they have greater resources (compared with younger populations) to deal with stressful life events. Nonetheless, further research is warranted to examine how enhancing parent-child relationships may facilitate sexual assault disclosure to parents, given that parents have the potential to serve as an importance resource and support figure for college women and particularly adolescents who experience trauma. A qualitative study conducted by Smith and Cook (2008) indicated that how parents talk about sexuality can influence whether young women confide in a parent after experiencing sexual victimization. Young women may not disclose experiences of sexual assault to their parents if their home environment does not provide a safe context in which to discuss sexuality (Washington, 2001).

The present data also suggest that women were more likely to turn to a female peer than a male peer following a sexual assault. Generally, discussions of sexual topics among college students are most likely to take place between women (Lefkowitz, Boone, & Shearer, 2004). Furthermore, women's friendships with men increase during emerging adulthood, women's friendships with other women continue to be at least as intimate, if not more so, than new relationships formed with men (Kuttler, La Greca, & Prinstein, 1999). Given that college students are likely to find information provided by a peer as more useful compared with information provided by a parent (Kallen, Stephenson, & Doughty, 1983), these data further underscore the need for educating college students, especially women, on how to appropriately respond to disclosure.

Whereas the primary focus of this study was to examine sexual assault disclosure to informal providers, data were consistent with prior reports documenting low rates of sexual assault disclosure to formal providers (see Ullman, 2010 for a review). Less than 7% of women with a history of adolescent sexual victimization or who were assaulted over the follow-up told a formal provider. In fact, no women in the current study reported an experience of sexual victimization to the police. These rates of disclosure to a formal provider are much lower than those documented in a recent community-based study, wherein 38.4% of women told parents, 44.9% of women told a mental health professional, and less than 30% told other formal providers (Ullman et al., 2008). It is likely that college women who fear that the police will respond in a negative way to disclosure (Fisher et al., 2000) are hesitant to discuss sexual victimization to the police. It is also possible that college women may not

be aware of the potential reasons for seeking formal assistance following sexual victimization. Further research is needed to understand the potential barriers to disclosing sexual victimization to a formal support provider and the factors that preclude assault-specific help-seeking behavior among survivors.

The second aim of the study was to describe the ways in which informal support providers respond to disclosure of sexual victimization by college women. This research is the first study to administer separate versions of the SRQ to college women in order to examine the social reactions of a range of specific informal providers. Data revealed that in response to disclosure of adolescent sexual assault, mothers more often provided survivors with tangible aid than distraction or responses that attempted to control the survivor's decisions. Regarding adolescent sexual assault and sexual assault over the follow-up, female peers provided more emotional support in response to disclosure compared with any other reaction. Regarding adolescent sexual assault, male peers also provided more emotional support in response to disclosure compared with any other form of reaction. These data suggest that survivors generally perceived their peers and mothers to provide positive social reactions to sexual assault disclosure.

It was notable that both female and male peers were more likely to use distraction (i.e., asking the survivor to stop talking about the assault), as opposed to trying to control the survivors' decisions, in response to adolescent sexual assault disclosure. It is possible that peers may play a critical role in helping survivors maintain their daily living activities when coping with the trauma of sexual victimization. Data also indicated that male peers provided more egocentric responses to disclosure of adolescent sexual victimization compared with attempting to control the survivor's decisions or treating the survivor differently. Adherence to traditional gender role beliefs emphasizing aggressiveness and dominance among men (Malamuth, Sockloskie, Koss, & Tanaka, 1991) may increase the likelihood that men respond to disclosure of sexual trauma by wanting to seek revenge on the perpetrator. These findings are concerning, that distracting the victim and egocentric responses are considered to be negative social reactions to disclosure (Ullman, 2000).

More research is needed to understand how these specific social reactions to sexual assault disclosure were interpreted by college women. For example, Campbell and colleagues' (2001) research documents that women's conceptualization of reactions typically classified as negative, such as telling the survivor "to get on with her life" or wanting to seek revenge, often varies. Specifically, almost half of women perceive that "telling you to get on with your life" or "wanting to seek revenge" is a helpful (49% to 60%) response; whereas a sizable portion of women believe these responses to be hurtful (20% to 43%) or neither helpful nor hurtful (8%-18%). Qualitative research conducted by Ahrens (2006) suggested that inappropriate support attempts, such as asking about the details of an assault (i.e., "were you drinking"), even if well intentioned, can serve to validate survivors' internalized messages about victim culpability. Understanding how specific social reactions are interpreted by college women is especially important in light of research suggesting that campus-based assaults frequently involve alcohol use (Abbey, Zawacki, Buck, Clinton, & McAuslan, 2004). Over half of the women in the present study with a history of sexual victimization and 68% of women who experienced sexual assault over the follow-up

reported consuming alcohol at the time of the assault. Given that college women have received relatively little focus in research examining social reactions to sexual assault disclosure, further inquiry is also needed to explore the relationship between specific reactions to disclosure and subsequent adjustment (Campbell et al., 2001).

These data also have practical relevance for developing programming aimed at educating potential support providers on how to respond appropriately to sexual assault disclosure. Whereas it is positive that college-age peers in this study often responded to sexual assault disclosure with emotional support, survivors may not have received adequate tangible aid and information regarding campus resources from their peers. Problematically, the vast majority of college students report little or no knowledge of the availability of mental health services on their campus (Yorgason, Linville, & Zitman, 2008). It is important to ensure that the support figures in whom survivors confide are equipped to respond in a sensitive and helpful manner and provide referrals to potential campus resources. Sexual assault prevention programs may include modules to educate women and men on how to respond to sexual assault disclosure, including strategies such as reflecting what the survivor may be feeling, letting her tell her story, conveying belief, and asking how one can be of help (see Ullman, 2010 for a review). College students can also be provided with information on what strategies to avoid when responding to sexual assault disclosure, including putting a label on the experience, pressing for details, or questioning the survivor's actions in the situation.

The third aim of this research was to examine predictors of adolescent sexual assault disclosure, disclosure of sexual victimization over the interim, and disclosure of sexual revictimization. Higher levels of coping via seeking emotional support (e.g. "confided your fears and worries to a friend or relative") demonstrated a positive univariate relationship to disclosure of adolescent sexual victimization and sexual revictimization, although this latter association was no longer significant after accounting for prior disclosure of sexual victimization. Coping via emotional support was also positively associated with disclosure over the follow-up after controlling for prior history of assault. Similarly, likelihood to disclose stressful information and strong attachments to others were both positively associated with disclosure of adolescent sexual victimization and sexual victimization over the follow-up, controlling for history of adolescent sexual assault. Whereas the data are not surprising, the findings are nonetheless encouraging, given that individuals who experience traumatic stress benefit from social support (Dunkel-Schetter, Folkman, & Lazarus, 1987; Lazarus & Folkman, 1984; Thoits, 1986; Valentiner, Holahan, & Moos, 1994), and several studies document a positive association between high levels of social support and recovery from sexual victimization, specifically (Burgess & Holmstrom, 1978; Kaniasty & Norris, 1992; Ruch & Chandler, 1983; Sales, Baum, & Shore, 1984). More important, however, these data point to the importance of understanding how use of avoidance coping strategies, low tendency to disclose information, and deficits in social support may preclude sexual assault disclosure for some college women. Whereas coping via avoidance may be helpful for victims as they navigate the initial crisis period after an assault, continued use of avoidance coping may prevent women from acknowledging and processing the thoughts and feelings related to the assault (Resick & Schnicke, 1992). Furthermore, this study targeted 1st-year college women, a time when many students are forming new support networks. Women who have yet to develop new attachments may be particularly vulnerable to remain silent regarding victimization experiences. Qualitative research is needed to better understand how the quality of existing support networks is associated with disclosure and assault-specific help-seeking following sexual victimization.

Consistent with Fisher and colleagues' (2003) research, the presence of victim and perpetrator alcohol use at the time of the assault was associated with disclosure of sexual victimization over the follow-up. Alcohol use is a common component of sexual assault on college campuses (Abbey et al., 2004; Gidycz, Warkentin, & Orchowski, 2007). It is possible that college students may now be more aware of the link between alcohol use and sexual assault as a result of alcohol education as well as sexual assault prevention programs on college campuses. Presumably, if college women are aware that sexual assaults on college campuses involve substance use by the victim and/or perpetrator, they may be more likely to disclose such a schema-congruent experience to others. Lower level of acquaintance with the perpetrator was also associated with disclosure of sexual victimization over the follow-up, accounting for past victimization experiences. Level of acquaintance with the perpetrator demonstrated a negative relationship with disclosure of sexual revictimization, even after controlling for prior disclosure of adolescent sexual assault. It is possible that women who were in an ongoing intimate relationship with the perpetrator and, as a result, were unlikely to confide in others about the experience due to anticipated pressure to end their relationship. Whereas sexual assault perpetrated by an intimate partner is common (Temple, Weston, Rodriguez, & Marshall, 2007), women may not have conceptualized these experiences as victimization (Layman, Gidycz & Lynn, 1996). It is also possible that in situations where the victim and perpetrator are well acquainted and share a peer group, disclosure may be precluded by the victim's fear of disrupting relationships within the group.

The present study adds to the literature in many ways; however, several analyses were precluded by women's low frequency of disclosing to various support providers, such as fathers. Reliance on self-report measures further limits the current results, as survey measures are often subject to potential bias. Although consistent with the demographics of the university, the current research is limited by the use of a primarily White sample. Given that numerous cultural factors may influence women's decision to disclose experiences of sexual assault (see Neville & Pugh, 1997; Smith & Cook, 2008; Washington, 2001), future research examining the process of sexual assault disclosure and patterns of social reactions to disclosure among various ethnic and racial groups is warranted. In addition, the vast majority of participants in this sample were 1st-year college women. It is therefore unclear if these results can be generalized to college women of all ages. For example, 1st-year college women living within the residence halls may have access to different support networks, including residence advisors and student affairs personnel than their college-age peers living off campus. Furthermore, the survey did not inquire regarding the extent of the survivor's relationship with the support provider. Further research is warranted to better understand how specific peer-support providers (e.g., Resident Advisors,

members of Greek houses, athletic teams) are likely to react to disclosure of sexual victimization and ensure that these individuals are equipped to respond with the survivor's best interest in mind.

This study also leaves several questions unanswered regarding the role of social reactions in women's subsequent process of recovery. To what extent do positive and negative social reactions from informal providers influence psychological symptomatology following an experience of sexual assault? These questions are important issues to address in future research. Research examining social reactions to disclosure of sexual assault strives to minimize secondary victimization of survivors, and improve organizational, institutional, and interpersonal responses to disclosure of trauma (Campbell & Raja, 1999). As the factors related to a woman's choice to disclose sexual victimization are undoubtedly complex, it follows that the relationship between social reactions to disclosure and subsequent adjustment is similarly multifaceted. To continue to make advances in our understanding of factors that influence recovery following sexual victimization, it is vital that investigators strive to employ methodological designs that allow for the examination of the complex interactions as well as potential causal relationships between various psychosocial variables. Longitudinal studies of diverse samples of women that use long-term follow-up periods and both qualitative and quantitative measures of contextual factors and adjustment are needed to continue our understanding of factors that enhance recovery following sexual victimization.

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The content is solely the responsibility of the authors and does not necessarily represent the official views of the Centers for Disease Control and Prevention.

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Bios

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