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Erin A. Casey

University of Washington Tacoma, ercasey@uw.edu

Paula S. Nurius

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TRAUMA EXPOSURE AND SEXUAL REVICTIMIZATION RISK:
COMPARISONS ACROSS SINGLE, MULTIPLE INCIDENT AND MULTIPLE
PERPETRATOR VICTIMIZATIONS

Erin A. Casey

University of Washington School of Social Work
4101 15th NE, Seattle, WA 98105
email: ercasey@u.washington.edu
Phone: 206-760-7801
Fax: (206) 543-1228

Paula S. Nurius

University of Washington School of Social Work
4101 15th NE, Seattle, WA 98105
email: nurius@u.washington.edu
Phone: 206 685-1682
Fax: (206) 543-1228

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ABSTRACT

Although research demonstrates a link between child sexual abuse and sexual revictimization in adolescence or adulthood, less is known about specific mechanisms that increase women's vulnerability to re-assault. This study examined experiential and outcome differences between survivors of a single assault, survivors of on-going abuse by a single perpetrator, and survivors of multiple assaults by different offenders. Multiply victimized women differed from survivors of a single assault or of on-going abuse on psychological distress, health and non-sexual trauma variables. Revictimization by new perpetrators was predicted by an earlier age during a first sexual assault and by non-sexual trauma in childhood.

Substantial empirical evidence suggests that women with a prior experience of sexual assault are at greater risk for sexual victimization than women without this experience. Across studies, rates of sexual victimization in adulthood range from 28 to 38% for women not sexually victimized in childhood, while childhood sexual assault survivors' rates of adult victimization range from 48% to 66% (Banyard, Williams, & Siegel, 2001; Maker, Kimmelmeier, & Peterson, 2001). Approximately two thirds of adult victims of sexual assault report a history of earlier victimization (Arata, 2002; Stermac, Reist, Addison, & Millar, 2002; Urquiza & Goodlin-Jones, 1994). In a review of sexual revictimization literature, Arata (2002) concludes that girls who are sexually victimized in childhood are 1.5 to 2.5 times more likely to be sexually assaulted in adolescence or adulthood than their non-victimized peers. Additionally, research suggests that revictimized women have poorer long-term psychological and emotional outcomes than their singly victimized or non-victimized counterparts (Arata, 1999b; Banyard et al., 2001; Maker et al., 2001).

Given the prominence of prior sexual abuse as a risk factor for victimization, prevention efforts aimed at enhancing women's self-protective capacities should account for factors related to earlier sexual assault experiences. Indeed, some literature suggests that prevention efforts which show promise for women generally may not be effective for female participants with a prior victimization history (Hanson & Gidycz, 1993). A critical prerequisite for enhancing prevention efficacy is identifying the mechanisms that link early experiences of sexual victimization with vulnerability to subsequent assault. To this end, a growing body of literature has examined factors such as the severity and timing of the initial sexual victimization as well as resulting psychological distress and functioning, and non-sexual trauma as potential mediators of early victimization (see for review, Arata, 2002; Messman-Moore & Long, 2003). These studies

primarily involve college or clinical samples (Arata, 2002) and often distinguish between initial victimizations that occurred in childhood versus adolescence or adulthood. The bulk of research does not differentiate, however, between the experiences and outcomes of women who experienced multiple victimizations by the same perpetrator over time versus those who are multiply victimized by different perpetrators at various points in their lives. Distinguishing between the impact of multiple incidents versus the impact of multiple perpetrators may be an important step in understanding the mechanisms of long-term psychological distress connected to victimization.

The purpose of this study is to build on previous literature by examining potential risk factors for sexual revictimization and for long-term psychological distress following single or repeat experiences of sexual assault. This analysis adds to existing literature through its use of a general population survey using random sampling methods to capture a community's collective experience of sexual assault and revictimization. Additionally, the study attempts to differentiate experiences and outcomes associated with three categories of sexual victimization: single assaultive events, on-going sexual abuse that occurs over time by the same perpetrator, and multiple sexual victimizations by different perpetrators over time. The primary aims of this investigation are to 1) examine differences in initial assault experiences and outcomes between women in different victimization categories, 2) to identify within a multivariate framework the strongest predictive factors for sexual revictimization by new offenders and 3) to examine predictors of long-term psychological and other life distress.

To this end, this paper will briefly outline extant literature related to risk factors associated with sexual revictimization and long-term outcomes for women, and will specify the research hypotheses developed for this analysis. Methods, data analysis approaches and results

will then be presented along with implications for future research and for revictimization prevention work with women.

Predictors of Sexual Revictimization

Factors such as age, severity and mental health consequences may link women's early victimization experiences to later vulnerability to new sexual assaults. Age at an initial sexual assault experience has received attention within the revictimization literature, with somewhat mixed results. Some research suggests that women who are first sexually assaulted during childhood are at greater risk of subsequent victimization than women first victimized during adolescence (Maker et al., 2001). Alternatively, child sexual abuse can increase vulnerability to new victimizations during adolescence, which, in turn, increases risk of exposure to sexual assault in adulthood (Gidycz, Coble, Latham, & Layman, 1993; Humphrey & White, 2000). Other research has found no effect for age at first assault (Jankowski, Leitenberg, Henning, & Coffey, 2002). On the whole, it appears that earlier experiences of sexual abuse create an initial vulnerability that is exacerbated by subsequent childhood or adolescent victimizations.

Severity of initial assault experiences is also suggested to impact risk of re-victimization. Early victimizations characterized by greater degrees of threat, force and invasiveness may differentially predict revictimization above the experience of sexual abuse alone (Arata, 2000; Collins, 1998; Irwin, 1999). Further, some evidence suggests that seriousness of initial experiences creates risk for more severe later assault experiences (Humphrey & White, 2000). In a prospective study of college women, Gidycz et al. (1993) found that severity of sexual assaults during childhood and adolescence predicted the severity of revictimization in early adulthood. Similarly, Mayall and Gold (1995) found that narrower definitions of child sexual abuse

including only physical contact forms of assault were predictive of revictimization, while more broad conceptualizations of child sexual abuse were not.

The age at which initial sexual assaults occur and their accompanying severity may increase women's vulnerability by exacerbating the psychological impact of an early victimization experience. Evidence suggests that psychological distress more generally and post-traumatic stress symptomatology (PTSD) in particular are likely mechanisms through which revictimization vulnerability builds. PTSD-related symptoms have been shown to moderate the relationship between early assault experiences and revictimization (Sandberg, Matorin, & Lynn, 1999) as well as the severity of childhood sexual abuse experiences and revictimization in adulthood (Arata, 2000). Thus, for women with a history of sexual victimization, high levels of current PTSD symptomatology can exacerbate vulnerability, decrease self-protective capacity or may constitute a vulnerability that potential perpetrators seek out and exploit (Messman-Moore & Long, 2003).

A complementary framework for understanding the link between experiences of child sexual abuse and vulnerability to revictimization is offered by Finkelhor & Browne (1985). These authors theorized that the experience of sexual abuse damages a young person's self-concept and world view through "traumagenic dynamics," which include a sense of betrayal, powerlessness, stigmatization and traumatic sexualization. Vulnerability to re-assault is posited to be exacerbated by psychological and emotional impact consistent with these dynamics. Aspects of an initial assault or its aftermath that intensify its psychological or traumatic effect may therefore increase risk for revictimization partially through the presence of traumagenic impact or previously mentioned post-traumatic symptoms.

Finally, the presence of non-sexual trauma during childhood can also increase young women's risk of sexual revictimization. Revictimized women are more likely to report neglect or physical abuse by caretakers in childhood, witnessing parental violence in childhood and physical violence by a dating partner during adolescence than singly or never-victimized women (Banyard et al., 2001; Collins, 1998; Stermac et al., 2002). Thus, young people whose early environments are characterized by risk of exposure to multiple types of trauma appear to be at greater risk of increased vulnerability. The nature of the environment's response to disclosures of abuse can also impact young people's vulnerability. Research has consistently demonstrated that supportive responses upon a child's disclosure of sexual abuse are associated with more positive mental health outcomes and more rapid healing (Everson, Hunter, Runyon, Edelson, & Coulter, 1989; Gries et al., 2000). Additionally, negative reactions from formal or informal helping systems have been associated with poorer mental health outcomes following an assault (Filipas & Ullman, 2001). The nature of and reaction to help-seeking by victims therefore appears to impact post-assault functioning, and by extension, risk of exposure to repeated sexual victimization.

Long-term Outcomes of Revictimization

Almost as consistent as the finding that previously victimized women are at greater risk of sexual assault, is evidence that multiply victimized women have worse psychological outcomes than their non-victimized or singly victimized counterparts. Most prominently, adult victims of sexual assault who have histories of child sexual abuse have significantly higher levels of post-traumatic stress symptoms than non-survivors or than women with child-only or adult-only victimizations (Arata, 1999b; Gidycz et al., 1993; Maker et al., 2001). Additionally, women victimized by different perpetrators at different time points have been shown to suffer

greater levels of depression and anxiety than women victimized only in childhood or only in adulthood (Banyard et al., 2001; Gibson & Leitenberg, 2001; Gidycz et al., 1993). Previously victimized women take longer to recover from a subsequent assault, experience more post-assault PTSD symptomatology and use less effective coping methods to heal (Arata, 1999a; Gibson & Leitenberg, 2001). Diminished psychological health appears to be connected specifically to multiple interpersonal traumas such as sexual assault; non-interpersonal traumas such as serious illness or accidents do not generate the level of psychological distress present for many sexually revictimized women (Green et al., 2000).

Revictimization may also exacerbate long-term sequelae such as substance use and diminished physical health, although little literature to date has specifically examined the impact of multiple sexual assaults on these factors. Increased likelihood of alcohol and other drug abuse has been consistently linked with childhood sexual assault (Briere & Runtz, 1993). In the context of revictimization, alcohol and drug use has been examined primarily as a situational variable or potential mediator of revictimization risk, with less attention to increased risk for alcohol or other drug abuse as a consequence of revictimization (see for review, Arata, 2002; Messman-Moore & Long, 2003; Thompson, Arias, Basile, & Desai, 2002). Similarly, research demonstrates a lasting damaging impact of early sexual assault on women's health. Using the National Violence Against Women data, Thompson and colleagues (2002) demonstrated a connection between a history of child sexual abuse and poorer ratings on current physical health. Child sexual abuse is associated with increased somatic complaints and higher utilization of health care services (Walker et al., 1998). Comparable to drinking and drug use, however, little research has examined the specific long-term impact of revictimization on women's health.

Numerous researchers have suggested that the sheer accumulation of traumatic experiences is responsible for the increased psychological distress found among revictimized women. Women who experience sexual assault are at greater risk of experiencing non-sexual traumas both in childhood and adulthood (Banyard et al., 2001; Messman-Moore & Long, 2000; Stermac et al., 2002). Follette and colleagues (1996) noted a stair-step effect when assessing psychological outcomes of women with different levels of trauma histories. Increasing numbers of experiences of child sexual abuse, adult sexual assault and adult partner violence were accompanied by concomitant increases in anxiety, depression and post-traumatic symptoms. Similar effects were noted by Green and colleagues (2000) who argue that a “threshold effect” may exist whereby an accrual of interpersonal traumas eventually overwhelms women’s coping and healing resources, resulting in poorer psychological functioning. Along these lines, Banyard et. al. (2001) found that non-sexual traumas experienced after an initial sexual victimization mediated the relationship between early child sexual abuse and psychological distress in adulthood.

Revictimization literature does not typically distinguish between young women who experience a series of victimizations by the same perpetrator and those who are revictimized by different offenders. It may be important to understand experiential and outcome differences between these groups of “revictimized” women in order to disentangle mechanisms that increase vulnerability and predict long-term psychological distress. This analysis aims to examine differences between victimization groups in early assault experiences, help-seeking, age at the onset of abuse and exposure to non-sexual traumas. Specifically, we hypothesize that women victimized by multiple perpetrators will have experienced more severe initial assaults, will be younger at the time of the first assault, will be exposed to more non-sexual trauma and perceive

less support from resources for help than singly victimized women or women with an on-going victimization by one perpetrator. We further hypothesize that women victimized by multiple perpetrators will experience more severe long-term impact in the arenas of psychological well-being, health and substance use. Finally, we hypothesize that the accumulation of traumas as well as the severity of the initial sexual assault experience will predict poorer long-term outcomes for sexual assault victims.

METHODS

Procedure

Secondary analysis was conducted on data from a general population survey of female residents of Washington State regarding their experiences related to sexual assault. Potential respondents were contacted by phone via random digit dialing, and only female household members over the age of 18 were included in the study. Interviewers completed a total of 1325 surveys; an additional 72 interviews were initiated but not completed. This represents a 67% response rate based on the methodology utilized in the National Violence Against Women Survey, which divided completed interviews plus ineligible contacts by completed interviews, ineligible contacts, terminated interviews and refusals (Tjaden & Thoennes, 1998).

Telephone surveys were conducted by trained female interviewers. Potential respondents were asked for consent to participate in a study regarding personal safety and were screened for age eligibility. Additionally, information regarding the sponsoring state agency and a corresponding 24-hour phone line were provided for authentication and emotional support if needed. Interviewers described confidentiality procedures and informed responding women about the sensitive nature of some surveys questions, reinforcing that respondents could skip

questions that were too difficult to answer. Respondents were screened for sexual assault experiences and women reporting victimization were asked additional questions about the nature of the event or events. All participants, regardless of sexual assault history, were asked about experiences with non-sexual trauma, past and current mental health symptoms and current functioning.

Participants

Women in the sample ranged in age from 18 to 96 with a mean age of 46 years. Approximately 88% of the sample identified as White, 2% identified as African American, 3% as Asian/Pacific Islander, 2% as Native American and 6% as multi-racial or “other.” An additional 61 (5%) self-identified as Hispanic. The ethnic breakdown of respondents roughly corresponds with the demographic composition of Washington State. Women of color are slightly but not significantly over-represented in the sample ($X^2(1) = 2.86, p = .09$) and women of Hispanic origin are under-represented ($X^2(1) = 20.13, p < .001$). Because of the large number of women self-identifying as multi-racial or “other,” it is not possible to determine whether other specific racial or ethnic groups were over or under-represented in the sample.

Measures

Sexual assault experiences were assessed utilizing similar methodology to the National Violence Against Women Survey (NVAWS) (Tjaden & Thoenes, 1998). Nine screening questions employed behaviorally specific wording regarding forced sexual contact to gauge whether women had experienced a range of sexually abusive acts from forced penetration to sexual touching. In addition to the questions utilized in the NVAWS, two new items were utilized to capture non-forced child rape and molestation that occurred when a woman was less than 15 years of age and her abuser was at least five years older. A final additional item assessed

whether respondents had experienced forced sex when they were too intoxicated to give or withhold consent. Women were asked to indicate whether they had ever experienced each type of sexual assault as well as the age at which their first experience with this act occurred. Women who answered affirmatively to at least one type of sexual assault were asked to indicate whether their experience was a single event with a single perpetrator, a single event with multiple perpetrators, multiple events by the same perpetrator or multiple events by different perpetrators over time. Responses to this question were utilized to categorize victimization experiences into three groups: single event (by single or multiple perpetrators), repeat assaults by a single perpetrator, or multiple victimizations by different perpetrators.

Aspects of sexual assault experiences. Yes/no items assessed the nature of assaults that women reported, specifically, whether the assault was accompanied by physical injury, threats by the perpetrator to harm or kill the victim, the use of a weapon or the woman's belief that her life was endangered. These four items were summed to provide an overall "index of particularly severe aspects of the first assault" (range 0-4). Women were also asked to indicate whether there had ever been a time when they had forgotten some or all of their first assault experience, for reasons not due to substance use at the time of the event.

Women were asked to specify the identity of the perpetrator or perpetrators. Respondents' spontaneous answers were categorized into one of six classifications, "stranger," "father/step-father," "other relative," "current or former partner," "friend" and "acquaintance" (a category which included identities such as neighbors and co-workers). Finally, women were asked to indicate whether they had sought any of the following forms of assistance: medical, law enforcement, counseling, rape crisis line, or disclosure to others such as family, friends or acquaintances. Affirmative responses were summed into a count of help-seeking, value ranges

on this index being 0-5. Women who sought help were asked to rate the helpfulness of that resource on a five-point Likert scale ranging from 1 “completely helpful,” to 5 “not at all helpful.” Responses were reverse-coded so that higher scores reflect higher perceptions of helpfulness.

Non-sexual traumatic experiences. Five yes/no items assessed whether respondents had experienced non-sexual types of trauma, including seeing someone seriously injured, having a close friend or family member be deliberately killed, experiencing stalking, being beaten, or experiencing a beating as a child. Affirmative responses to these items were summed to create a “count of non-sexual trauma” index. Scores on this index ranged from 0 to 5, with a mean of 1.02.

Current Functioning: Psychological Distress, Health, and Substance Use. Post-traumatic stress (PTSD) and depression symptoms were assessed utilizing yes/no items equivalent to diagnostic criteria listed in the Diagnostic and Statistic Manual – IV – TR (APA, 2000). Nine items appraised depressive symptoms (such as “have you had days when you were uninterested in most things or unable to enjoy things you used to do?”) and 15 items assessed PTSD symptoms (such as, “have you gone out of your way to avoid certain places or activities that might remind you of something that happened to you in the past?”). Respondents were asked to indicate both whether 1) they had ever experienced each symptom in their lifetime, and 2) whether they had experienced the symptom in the past two weeks (depression) or past month (PTSD). Affirmative responses were then summed to create an index of lifetime and current PTSD and depression symptoms. Scores on lifetime PTSD symptoms ranged from 0 to 15 with a mean of 3.74; current PTSD ranged from 0 to 15 with a mean of 1.24, lifetime depression

symptoms ranged from 0 to 9 with a mean of 3.18 and current depression scores ranged from 0 to 9 with a mean of 1.11.

Women were also asked to rate their current health compared to others their age using a 5-point Likert scale from 1 “excellent” to 5 “poor.” Scores were then reverse coded to reflect better health with higher ratings. The mean health score across the sample was 3.59 with a range of 1 to 5. Binge drinking was assessed via a single item asking respondents about the frequency of having four or more drinks at one sitting, using a 5-point Likert scale from 1 “never” to 5 “daily or almost daily.” Respondents reported a mean binge drinking score of 1.45 with a range of 1 to 5. Past month drug use was also measured via the single item “how many days have you taken drugs, such as marijuana, cocaine or other “street drugs” in the past 30 days?” Drug use scores ranged from 0 to 30 with a mean of .31. Health, drinking and drug use items were adapted from similar items in the National Violence Against Women Survey (Tjaden & Thoennes, 1998).

RESULTS

Approximately 38% of women responding to the survey reported an experience of sexual assault at some point in her life. Of the women in the sample, 23% experienced a rape, 12% reported an attempted rape, 15% experienced unwanted sexual touching, 9% were forced to have sex while intoxicated or incapacitated, 7% experienced non-forced child rape and 18% non-forced child molestation. Of the 427 women reporting complete sexual assault information, 189 (44%) experienced a single incident of sexual victimization, 146 (34%) experienced on-going victimization by the same perpetrator over time, and 92 (22%) reported multiple assaults by different assailants over time.

Although information regarding perpetrator identity was collected for all victims, the definition of victimization groups created a dependence between offender identity and membership in a victimization group. For example, women who experienced on-going victimization by a single perpetrator were more likely to be victimized by a family member or current/former partner than singly victimized women. This relationship is not surprising given the parameters of victimization groupings. It was therefore concluded that perpetrator identity did not constitute an independent predictor of victimization group membership and was not entered in multivariate analyses. On a descriptive level, among singly victimized women, 61% were victimized by a friend or acquaintance, 15% by a relative, 12% by a current or former partner and 13% by a stranger. Women in the on-going victimization group were most commonly assaulted by family members (47%), followed by a friend/acquaintance (34%), current/former partner (18%) or stranger (1%). Women assaulted by multiple perpetrators were first assaulted by a friend or acquaintance (51%), family member (34%), current/former partner (8%) or stranger (8%).

Victimization Group Differences on Aspects of Initial Assault and Trauma Exposure.

Univariate analyses of variance between the three victimization groups revealed several significant differences related to the initial sexual assault experience (see Table 1) <s>4. Consistent with expectations, multiply victimized women and women with an on-going assault experience were significantly younger at the time of their first assault than singly victimized women. Additionally, women assaulted by multiple perpetrators over time were significantly more likely than their singly victimized counterparts to have higher scores on the index of severe aspects of the first assault. This finding appears to be attributable primarily to a greater likelihood of injury among multiply victimized women (26% of multiply victimized women

were injured during their first assault compared to 15% of survivors of on-going abuse and 13% of singly victimized women), and belief in life endangerment (37% of multiply victimized women feared for their lives during their first sexual assault experience compared to 27% of on-going abuse survivors and 23% of singly victimized women). Multiply victimized women were also more likely than the other two victimization groups to have forgotten some or all of their first assault experience at some point.

Table 1 about here

Victimization groups also differed on the amount and perceived helpfulness of help-seeking activities. Survivors of on-going abuse by a single perpetrator sought significantly more sources of help than singly victimized women, but did not differ from multiply victimized women in help-seeking. This difference may be primarily due to obtaining counseling services; 44% of survivors of on-going abuse sought therapeutic services connected to their first assault compared to 35% of multiply victimized women and 32% of singly victimized women. Overall, very few women reported their first assault experience to law enforcement (15%) or sought relief from a rape crisis line (3%). Due to the low numbers of women seeking these types of help, women's perceptions of the helpfulness of police and of rape crisis lines were not analyzed. When disclosing the assault to informal sources of support, multiply victimized women were less likely to view the response as helpful compared to singly victimized women. No differences in perceived helpfulness of counseling emerged among the three victimization groups.

Finally, women in the three victimization groups differed in terms of their lifetime exposure to trauma. Over the course of their lives, women with multiple perpetrators

experienced significantly more traumatic events that were non-sexual in nature than either of the other two victimization groups. All groups were significantly different in terms of the number of types of sexually assaultive acts reported (i.e. rape, attempted rape, unwanted touching, etc), with multiply victimized women reporting the highest number of kinds of sexual assault experienced over time. These results are summarized in Table 1.

Given the significant differences in victimization groups' initial assault experiences, a logistic regression predicting victimizations by new perpetrators was conducted to identify the strongest predictors of re-assault. For the purposes of this analysis, and consistent with previous literature, revictimization was defined as multiple incidents of sexual assault by different perpetrators over time (Gidycz et al., 1993; Maker et al., 2001). The singly victimized and on-going victimization groups were therefore collapsed into one group. All variables for which significant differences were found among the three original victimization groups were utilized in the regression with the exception of perceived helpfulness of sources of support. Because nearly one-third of all women sought no help following their first assault, and only 33% of women obtained counseling, including these variables in the analysis would have excluded nearly 2/3 of the sample across all groups. Additionally, of the five items comprising the exposure to non-sexual trauma variable, only experiencing a beating as a child was included as a binary variable in the logistic regression. Excluding non-sexually traumatic events that could occur at any time in a woman's life was done to remain as close as possible to likely temporal ordering of predictors of revictimization. Predictors therefore included age at initial assault, index of severe aspects of first assault, forgetting, experiencing a beating as a child, and help-seeking following the initial attack.

The regression analysis resulted in a well-fitting model (Hosner and Lemeshow $\chi^2(8, 399) = 8.28, p=.41$), correctly categorizing 78.4% of the cases. A younger age at the time of an initial sexual victimization (OR = .93, CI = .89-.98), and experiencing a beating as a child (OR = 2.82, CI = 1.43-5.57) emerged as significant predictors of revictimization. Forgetting the initial sexual assault approached significance (OR=1.57, CI = .94-2.61). Help seeking and severe aspects of the initial assault did not significantly predict revictimization.

Victimization Group Differences on Current Functioning

Group differences in current psychological distress, self-rated health and substance use were examined via a MANOVA. Non-victimized women were included in these analyses as a comparison group. The Omnibus test was significant (Wilk's Lambda=2104.84, $p<.001$) and subsequent univariate tests indicate significant groups differences on all of these variables (see Table 2). Multiply victimized women had significantly more lifetime and current symptoms related to both post-traumatic stress disorder and depression than all other groups of victimized and non-victimized women. Similarly, multiply victimized women rated their health as significantly worse on average than all other women in the sample. Self-reported drug use was more frequent among multiply victimized women than among their non-assaulted peers. Finally, non-victimized and singly victimized women reported less frequent binge drinking than multiply victimized women and survivors of on-going abuse.

Table 2 about here

Stemming from our final research questions, OLS regression was utilized to test the strength of trauma exposure variables in accounting for long-term psychological distress, poor

health and substance use among victimized women. All significant predictors from Table 1 were entered into the model with the exception of perceived helpfulness of sources of support for the reasons reported previously. The first step included characteristics of the first assault experience, including age, the index of severe aspects of the first sexual assault and whether or not the respondent had ever forgotten some or all of the event. The second step concerned lifetime exposure to additional trauma, and included the count of non-sexual trauma and a count of different types of sexually violent acts uncovered by the screening questions. The third step included the cumulative index of number of sources of help sought.

Results of the multiple regression analyses are summarized in Tables 3 and 4. Findings indicate that the model significantly predicts current PTSD symptoms ($F(6,459) = 17.61, p < .001$) and current depression symptoms ($F(6,459) = 6.90, p < .001$). In both cases, the index of severe aspects of the first sexual assault is associated with current psychological symptoms in the first step of the model. This relationship diminishes to non-significance with the addition of the trauma exposure variables in step two. Exposure to non-sexual traumas and to multiple types of sexually assaultive acts appear to be most predictive of current psychological functioning. Adding the count of help-seeking in the third step did not enhance the explanatory power of the model.

Table 3 about here

Multiple regression results for the health, binge drinking and drug use variables suggest that the predictors in the model are less associated with these outcomes. The group of variables did not predict a significant amount of variance in self-ratings of health ($F(6,459) = 1.77, p =$

.10) with only the count of types of sexual assault experienced significantly related to current health. The model did predict current binge drinking ($F(6,453) = 3.30, p = .003$) and approached significance in relation to past month drug use ($F(6,456) = 1.99, p = .07$). Again, the number of types of sexual assault that a woman had been exposed to over her lifetime was the most significant predictor of these outcomes and carried more predictive weight than exposure to non-sexual traumas. Interestingly, experiencing severe threat during the first assault and forgetting some or all of the first assault appeared to be slightly inhibitive of current binge drinking. Taken together, the regression analyses indicate that the predictors in the model are more associated with current mental health and particularly PTSD symptomology than other aspects of well-being, and that greater exposure to trauma carries the bulk of the predictive power relative to current functioning.

Table 4 about here

DISCUSSION

The findings in this study offer a descriptive analysis of differential patterns of experiences and outcomes for women with different types of sexual assault histories. The results suggest that singly victimized women differ from women with repeat victimizations both in terms of the characteristics of their initial sexual assault and with respect to the long term psychological and health consequences of their traumatic experiences. Both survivors of on-going abuse and survivors of multiple assaults by different perpetrators were more likely to be younger at the time of their first assault and to experience more severe initial assaults (characterized by injury or degree of threat). These results echo the findings of previous studies

that connect revictimization to initial assault severity and earlier victimizations (Arata, 2000; Humphrey & White, 2000; Maker et al., 2001). Within these differences, a trend emerged in which victims of multiple perpetrators were even younger and experienced a higher number of “severe” aspects of victimization than women who were repeatedly victimized by the same perpetrator over time. Additionally, women victimized by multiple perpetrators were more likely to have ever forgotten some or all of their initial assault experience, and to find the response of informal supports unhelpful in response to disclosure compared to their singly victimized counterparts.

Even more marked were the results related to the cumulative exposure to trauma over time. Women victimized by multiple perpetrators experienced significantly more non-sexual traumas during their lifetime than either singly victimized women or survivors of on-going abuse. Additionally, multiply victimized women experienced more types of sexually assaultive acts over the course of their lives than women revictimized by the same perpetrator over time. Thus, while both groups of repeatedly victimized women may have more severe initial experiences than singly victimized women, women hurt by multiple offenders appear to face an added layer of exposure to both sexual and non-sexual trauma.

This differential exposure to trauma is further reflected in the findings related to the long-term outcomes of women with different assault experiences. Consistent with expectations, women victimized by multiple perpetrators were struggling with significantly more current post-traumatic stress-related symptoms, more depression symptoms and poorer self-rated health than both the singly victimized group and the on-going victimization group. Additionally, the multiple perpetrator victimization group was the only group of sexually assaulted women to have significantly higher past month drug use than non-sexually victimized respondents. Taken

together, these results suggest that while repeated victimization by the same perpetrator is associated with greater psychological impact than a single assault experience, a new assault by a different perpetrator may be a more damaging form of revictimization than on-going abuse by the same offender.

Given the evidence of the serious additive consequences of revictimization by different offenders, disentangling the mechanisms that are most predictive of vulnerability to new sexual assaults is vital. Within the multivariate framework in this analysis, only a younger age at the time of an initial sexual victimization and exposure to physical abuse in childhood emerged as significant predictors of sexual victimization by different perpetrators over time. Contrary to expectations, severity of the initial assault experience, forgetting the initial assault experience, and the number of supportive resources sought did not significantly discriminate multiply revictimized women from the single or on-going victimization groups. Thus, women whose early environments are characterized by both physical and sexual trauma risks may be most vulnerable to subsequent sexual assaults. Additionally, the univariate relationship between membership in the multiple perpetrator victimization group and more “unhelpful” responses from informal sources of support to disclosures of an initial sexual assault experience suggests that these repeatedly victimized women’s early environments may be more likely to be generally unsupportive of young women’s safety. Further, a single victimization or an experience of on-going abuse by a single perpetrator alone may not increase vulnerability to victimization outside of the context of risk for non-sexual trauma or of unsupportive responses upon disclosure.

These findings echo previous research in highlighting the importance of early remedial intervention and attention to the presence or lack of supports in a young person’s environment. Victimized youth in environments characterized by risk of exposure to multiple types of violence

or trauma may be at elevated risk for revictimization and the compounding psychological impact of multiple traumas (Banyard et al., 2001; Follette et al., 1996; Green et al., 2000). Recent work points to the impairing effects of early violence exposure on victims' self-concept and identity health which, in turn, carry cognitive consequences for subsequent psychological well-being and life functioning (Kellogg, Hoffman, & Taylor, 1999; Nurius, Casey, Lindhorst, & Macy, 2004). Although it is not possible to test the causal relationship between psychological distress and subsequent revictimization with these data, the findings are consistent with previous work suggesting that un-addressed psychological trauma resulting from earlier assaults may increase vulnerability (Sandberg et. al., 1999). Responses to disclosure that attend to enhancing potential buffers such as family support and protectiveness may help to foster healing and psychological resilience and to prevent a developmental trajectory characterized by revictimization.

Long-term psychological distress appears most clearly related to sheer trauma exposure. Within a multivariate framework, only exposure to non-sexual trauma and the number of different sexually assaultive acts experienced by a woman were predictive of increased current post-traumatic and depression symptomatology. Age at the time of an initial sexual assault was unrelated to current functioning and the index of severe aspects of the first assault lost significance with the addition of trauma exposure variables. Additionally, increased exposure to types of sexual trauma was the most consistent predictor of poorer physical health and current substance use. These results echo previous findings suggesting that victimization history more powerfully predicts long-term psychological and physical distress than specific characteristics of early assaults (Koss, Figueredo, & Prince, 2002). Although the pure accumulation of traumas may indeed overwhelm a woman's coping resources and damage psychological and physical well-being, it is likely that additional mediating mechanisms are at work. Gidycz and colleagues

(1993) found that initial sexual trauma predicted decreased psychological health, which in turn predicted vulnerability to revictimization. Something of a spiral effect may be at work, whereby emotional or psychological vulnerabilities following a trauma are targeted and exploited by potential new perpetrators. Alternatively, impaired psychological functioning resulting from trauma may impede women's self-protective capacities in the face of later assault threats. Subsequent revictimization then further erodes psychological well being. "Forgetting" or repressing a sexually assaultive experience may play a role in this cycle. Women victimized by multiple perpetrators were more likely to forget some of all of their initial assault experience, and "forgetting" was a marginal predictor of sexual revictimization. Forgetting may contribute to vulnerability by preventing a woman from actively processing her experience, from challenging self-blame or other self-defeating schemas and from developing coping skills that reduce vulnerability. It is not possible to test this model with the current data, arguing for research to elucidate more fully the specific mechanisms that link trauma exposure to long-term psychological and other life distress.

Several limitations of the study should be noted. First, it is likely that many women's experiences are underrepresented in the data. The survey did not reach women without access to residential phones, a limitation that may exclude particularly vulnerable women who are homeless, institutionalized or living in poverty. Secondly, although the number of women of color responding to the survey roughly matches the corresponding proportion of racial and ethnic minority women in Washington State, their numbers were not large enough to disaggregate from the entire sample to analyze separately. Additionally, during survey administration, a lack of translators and interviewers who could speak languages other than English resulted in exclusion

of non-English speaking residents of the State. Research related to the sexual revictimization experiences of women of color continues to be a pressing need.

A second limitation is the study's inability to control for recency of sexually assaultive experiences. Because women were only asked to give the age at which the first incident of a particular type of sexual assault happened, data were not available regarding the age at which multiply victimized women experienced the most recent of that type of assault. Recency may confound findings related to current psychological symptomatology to some extent. This may be slightly offset by the fact that singly victimized women were more likely to be first victimized at a later age than either survivors of on-going abuse or women victimized by multiple perpetrators.

Finally, the current analysis is limited to some degree by available measures. First, the retrospective approach to gathering sexual assault data may decrease accuracy of the details associated with particular assaults, or may result in the omission of some abuse experiences. It is also conceivable that victims of child sexual abuse may be more sensitive to coercive experiences and may therefore be more likely to identify and report subsequent incidents of victimization than women not abused in childhood. Second, variables including health, binge drinking and drug use were assessed via single items and may not have been sensitive enough to capture their full association with women's experiences of trauma. Help-seeking variables were limited by the non-inclusion of a full range of potential sources of support, including spiritual and other community resources. Finally, it was not possible to connect data regarding the nature of subsequent sexual assault experiences of multiply victimized women to particular time points in their lives. While it would have been beneficial to be able to represent the nature of all of the respondents' assault experiences, the fact that solid information was available regarding every woman's first experience of sexual victimization represents a strength of the study.

Despite these limitations, this study adds to existing literature by disentangling experiential and long-term functioning differences between women with different victimization experiences. As expected, women revictimized by multiple perpetrators over time had more indicators of psychological and other current life distress than either singly victimized women, or survivors of multiple incidents by a single perpetrator. The nature of women's repeated exposure to trauma therefore appears salient to their subsequent vulnerability and long-term outcomes. Additionally, these findings support previous research in re-affirming the connections between early traumatic experiences, sexual revictimization and long-term psychological distress in a general population sample of women. As a whole, the results provide some insight into the longitudinal processes associated with sexual revictimization and underscore the need for prospective longitudinal research that can better chart trauma and resilience processes over time.

NOTES

1. The original study was commissioned by the Washington State Office of Crime Victims Advocacy and was conducted by the Harborview Center for Sexual Assault and Traumatic Stress and the Washington State University Social and Economic Sciences Research Center.
2. Questions were designed to elicit sexually abusive experiences that meet legal definitions of sexual assault even when the respondents do not self-label the incident as such (such as, “regardless of how long ago it happened or who did it, has a man or boy ever made you have sex by using force or threatening to harm you or someone close to you? Just so there is no mistake, by sex we mean a penis in your vagina.”)
3. Of the 502 women reporting at least one sexual assault, 66 women indicated that they had experienced a single victimization incident, but gave more than one age at which different kinds of sexual assault first happened. An additional 9 women did not respond to this item or did not know their age at the time of different types of assault. Because it was not possible to determine definitively which “victimization group” best described these women’s experiences, they were not included in analyses that involved group comparison.
4. Bonferroni corrections to adjust alpha levels were not conducted on the univariate comparisons between victimization groups due to the lack of correlation between these dependent variables and the highly different conceptual issues the variables represent. The two dependent variables which were correlated, non-sexual traumatic events and types of sexual assault in lifetime ($r=.43$, $p<.001$) had significant univariate differences by victimization group far below the .05 level, suggesting little chance of a Type I error.

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BIOGRAPHICAL STATEMENTS

Erin A. Casey is a doctoral student at the University of Washington School of Social Work. She received her MSW from the University of Washington and has worked in the fields of sexual and domestic violence prevention and intervention. Her research interests include the primary prevention of interpersonal violence and engaging communities and social networks in efforts to address and prevent sexual assault.

Paula S. Nurius is a Professor and Director of the Prevention Research Training Program at the University of Washington School of Social Work. She received her MSW from the University of Hawaii and her MA in psychology and Ph.D. in social welfare from the University of Michigan. Her scholarship has focused on social cognitive analysis of the self-concept and its function in self-regulation as well as functioning under conditions of stress and vulnerability. Her current research includes women's appraisal-based coping with relationship violence, risk and protective factors impinging on self-protective coping, and interventions designed to strengthen resistance and reduce harm.

Table 1. Exposure to trauma by victimization group.

Variables:	Single Victimization	<u>Multiple victimizations</u>		F Value
		One perpetrator	Multiple perpetrators	
<u>Aspects of first sexual assault:</u>				
Age at first assault ^a	15.2	11.4	10.5	22.82**
Index of severe aspects of first assault. ^b	.52	.64	.89	3.80*
Ever forgot some or all of event	29.7%	38.2%	50%	X ² = 10.67**
Number of types to help sought after first assault. ^c	1.07	1.38	1.28	3.32*
<u>Helpfulness of help-seeking:</u>				
Counseling	3.68	3.54	3.32	.99
Telling friends/ family/others ^d	3.57	3.34	3.10	3.22*
<u>Other lifetime exposure</u>				
Count of non-sexual traumatic life events ^e	1.29	1.50	1.96	9.76***
Count of types of sexual assault in lifetime ^f	1.44	3.01	3.63	93.40***

* p<.05, ** p<.01, ***p<.001.

^a Singly victimized > Multiply victimized, one perp and multiply victimized, multiple perp.

^b Singly victimized < Multiply victimized, multiple perp.

^c Singly victimized < Multiply victimized, one perp

^d Singly victimized > Multiply victimized, multiple perp.

^e Multiply victimized, multiple perp > Singly victimized and multiply victimized, multiple perp.

^f All groups sig. different

Table 2. Group Differences on Current Functioning Variables

Variables:	Non-Victims	Single Victimization	Multiple victimizations		F Value
			One perpetrator	Multiple perpetrators	
<u>Depression Symptoms</u>					
Lifetime ^a	2.35	3.81	4.57	5.55	74.41***
Current ^b	.74	1.32	1.50	2.48	36.43***
<u>PTSD symptoms</u>					
Lifetime ^a	2.37	4.56	5.98	8.33	139.7***
Current ^a	.65	1.49	2.15	3.40	65.56***
Self-rating of current health ^c	3.67	3.58	3.60	3.20	5.81**
Binge drinking ^d	1.35	1.49	1.63	1.73	12.38***
Past month drug use ^e	.10	.44	.40	.98	4.66**

* p<.05, ** p<.01, ***p<.001.

^a All groups significantly different

^b All groups sig. different except singly victimized and multiply victimized, single perpetrator group.

^c Multiply victimized, multiple perp. sig different from all other groups.

^d Both multiple victimization groups > non-victimized, singly victimized groups.

^e Non-victimized < multiply victimized, multiple perpetrators.

Table 3. Multiple Regression: Predicting Current PTSD and Depression Symptoms

Current PTSD Symptoms	Standardized Beta Coefficient		
	Step 1	Step 2	Step 3
Model:			
Age at first sexual assault	-.04	.04	.04
Index of trauma of first SA	.24***	.08 ^a	.07
Forgetting first SA	.03	.01	.01
Count of types of SA lifetime		.20***	.20***
Count of non-sexual trauma		.28***	.28***
Count of types of help-seeking			.01
R² Change		.13***	0.0
R²	.06	.19	.19
Current Depression Symptoms			
Model:			
Age at first sexual assault	-.04	.03	.03
Index of trauma of first SA	.10*	-.02	-.03
Forgetting first SA	-.01	-.03	-.03
Count of types of SA lifetime		.19***	.19***
Count of non-sexual trauma		.17**	.17**
Count of types of help-seeking			.03
R² Change		.07***	0.0
R²	.01	.08	.08

*p < .05, ** p<.01, *** p<.001

^a p<.10

Table 4: Multiple Regression: Predicting aspects of current functioning

Outcome variable:	<u>Standardized Beta Coefficient</u>		
	Health	Binge drinking	Past month drug use
Age at first sexual assault	-.02	.09 ^a	-.04
Index of trauma of first SA	.00	-.12*	-.06
Forgetting first SA	.08	-.09*	.01
Count of types of SA lifetime	-.12*	.14**	.12*
Count of non-sexual trauma	-.02	.09 ^a	.06
Count of types of help-seeking	-.05	-.01	.03
R²	.023	.042	.025

*p < .05, ** p<.01, *** p<.001

^a p<.10