

Gender, Victimization, and Outcomes: Reconceptualizing Risk

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Large-scale studies of gender differences in psychopathological reactions to victimization have focused on posttraumatic stress disorder, overlooking other trauma-related disorders. The present study expands this literature with a contextualized examination of interpersonal aggression exposure and sequelae. Using k-means cluster analysis on a sample of 16,000, the authors identified 8 distinct profiles of exposure to sexual violence, physical assault, stalking, and emotional abuse. Analyses of covariance then suggested links among victimization profile, gender, and mental and physical health. Results revealed no meaningful interactive effects of gender and interpersonal aggression on outcomes, once lifetime exposure to aggressive events was adequately taken into account. These findings argue against theories of female victims' greater vulnerability to pathological outcomes, instead linking risk to exposure history.

Some have theorized that women may be more psychologically vulnerable than men after victimization (Breslau, Chilcoat, Kessler, Peterson, & Lucia, 1999), whereas others have contended that it is not gender but the type of event experienced that raises risk for psychopathology (Bromet, Sonnega, & Kessler, 1998; Wolfe & Kimerling, 1997). However, it is often difficult to test the gender versus event hypothesis because of qualitatively different types of victimization experienced by men and women. In fact, most of the adult trauma literature has highlighted combat as "male" trauma and rape as "female" trauma (Brewin, Andrews, & Valentine, 2000). Further, life histories of victimization vary tremendously—ranging from a lone incident to a series of chronic, related events over time to multiple discreet, unrelated events unfolding across the life course. The present study investigated how aggressive victimizations cluster together in women's and men's lives and how specific histories or profiles of interpersonal aggression relate to psychological and physical health.

The clinical psychology literature has often focused on specific physically aggressive acts against persons—such as domestic violence, rape, or child abuse—referring to them as *interpersonal violence*. The present article uses a somewhat more expansive definition of victimization: *interpersonal aggression*. The notion of aggression encompasses not only physical but also psychological, willful injury (e.g., emotional abuse, stalking; see Buss's [1961] classic distinction between physical vs. verbal/psychological aggression). In its broadest sense, interpersonal aggression implies a negative interaction between two individuals resulting from a deliberate intent to harm. This definition includes both

physical and psychological victimization, stranger and nonstranger perpetrators, and female and male victims.

Research has linked interpersonally aggressive victimization to a range of deleterious outcomes, including posttraumatic stress disorder (PTSD), substance dependency, somatic complaints, and general psychological distress (e.g., Breslau, Davis, Peterson, & Schultz, 2000; Gidycz & Koss, 1991; Green, Epstein, Krupnick, & Rowland, 1997; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995; Kilpatrick, Resnick, Saunders, & Best, 1998; Perkonig, Kessler, Storz, & Wittchen, 2000). Compared with other types of potentially traumatizing events (e.g., accidents, natural disasters), interpersonal aggression may be more psychologically harmful. Theorists have posited that the cause of this enhanced harm is the intentionality, or purposeful versus accidental nature of the event (Green, 1990; Herman, 1992). However, because most of this research on adult outcomes of interpersonal victimization has concentrated on women, we know less about the psychological impact of these events on men.

Likely resulting from the overwhelming number of studies on the sequelae of interpersonal aggression for women, theories have emerged about female victims' greater vulnerability to psychopathological outcomes relative to male victims. Most notably, Breslau, Chilcoat, Kessler, Peterson, and Lucia (1999) used conditional probabilities to examine victimization outcomes among 2,181 women and men. They concluded that "the conditional risk of PTSD is approximately two fold higher in females than males, even when the sex difference in the distribution of trauma types is taken into account" (p. 819). Further, when conducting additional analyses of these data, they found that this higher PTSD risk remained among women even after controlling for the presence of previous trauma history (Breslau, Chilcoat, Kessler, & Davis, 1999). Thus, they interpreted their results as evidence of women's greater vulnerability to psychopathological reactions to trauma.

We treat Breslau et al.'s (1999, 1999) "feminine vulnerability" interpretation with some caution, however, for two reasons. First, Breslau, Chilcoat, Kessler, and Davis's (1999) conclusion that feminine vulnerability remains even after controlling for previous trauma rests on analyses that may not have sufficiently adjusted for differences in women's and men's trauma histories. Specifically,

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they collapsed broad ranges of events (combat, rape, shooting/stabbing, sexual assault, mugging, and severe beating) into the category of "assaultive violence," and then controlled for the presence or absence of such violence in an individual's history using a dichotomous indicator. Given research documenting qualitative differences in women's and men's assaultive victimization (e.g., more rape and molestation of women, more nonsexual physical attacks against men; Kessler et al., 1995), Breslau and colleagues' gross measure of prior trauma history may not have entirely controlled for gender differences in previous exposure.

Second, Breslau et al. (1999, 1999) calculated probabilities of manifesting PTSD following exposure to specific types of trauma, excluding two: rape and combat. They excluded these two types of events for good reason, given insufficient numbers of male rape victims and female combat veterans. However, these are perhaps two of the most gender-specific forms of traumatic victimization. Thus, any consideration of gendered vulnerabilities to trauma-related psychopathology should take into account rape and/or combat. Their findings of greater PTSD risk among women could therefore still arise from gender disparities in victimization histories (Wolfe & Kimerling, 1997).

To date, large-scale studies of gender differences in psychopathological reactions to victimization have focused almost exclusively on PTSD, with less attention to other trauma-related disorders that have even more gender-skewed base rates (e.g., depression, alcohol abuse). Other literatures have linked interpersonal victimization to depression, substance abuse, and health problems (e.g., Burnam et al., 1988; Duncan, Saunders, Kilpatrick, Hanson, & Resnick, 1996; Morrison, 1989; Weiss, Longhurst, & Mazure, 1999). However, most of these studies focused solely on women, precluding gender comparisons. A few included both women and men, but they failed to report on potential gender differences in mental and physical health outcomes (beyond PTSD). The one empirical study that we identified as comparing women and men on trauma-linked, non-PTSD symptoms found no gender differences in the development of major depression following exposure to traumatic stress (Shalev et al., 1998).

In addition to focusing on gender, mounting clinical research suggests that prior trauma histories—or stressful life events post-trauma—influence psychological outcomes and the likelihood that a trauma-related disorder will manifest (e.g., Breslau, Chilcoat, Kessler, & Davis, 1999; Green et al., 2000; Kessler et al., 1995; King, King, Fairbank, Keane, & Adams, 1998). For example, in a longitudinal sample, Kilpatrick et al. (1998) demonstrated that, for each unit increase in the number of violent assaults, the odds of alcohol dependency increased by 1.43. Further, the additive effect of life stressors—particularly negative life events—has long been documented in studies of depression (e.g., Brown & Harris, 1978; Dohrenwend & Dohrenwend, 1974). This body of past research on multiple traumas and stressors suggests that, as the number of interpersonal victimizations or life stressors increases, so does the severity of psychopathology.

Despite this burgeoning research documenting the relevance of multiple victimizations to psychological outcomes, studies examining aggressive events throughout the life course are not common. Of course, simultaneous consideration of multiple interpersonal events is often difficult because of analytic techniques that can accommodate only a limited number of variables and cases. Many studies have collapsed across event types, owing to well-justified concerns about insufficient numbers of men and women disclosing

each event subtype for meaningful analysis. This approach results in greater statistical maneuverability but in a loss of critical detail.

The present study involved a contextualized examination of interpersonal aggression exposure and sequelae. We have investigated five different types of interpersonal aggression in the life histories of 16,000 women and men. Like much past research, this includes physical forms of such aggression: adult physical assault, childhood physical assault, and lifetime sexual violence. In addition, our comprehensive consideration of interpersonal aggression extends to less-studied, psychological forms of aggressive victimization: stalking and emotional abuse. The large size of this sample allows us to study gender and interpersonal aggression across the life span, using an approach that is more "person centered" than previous research. More specifically, we examine the nature and extent of aggression exposure histories for both genders. Consistent with prior research, we anticipate gender differences in the reported histories, with women experiencing more sexual violence and men experiencing more physical assault (Hypothesis 1).

Central to our study is the question of how victimization histories relate, along gender lines, to psychological and physical health outcomes. Complementing the existing literature on sequelae of violence exposure, we focus on four particular outcomes: depression, alcohol use, drug use, and physical health. Gender differences may emerge when outcome analyses collapse across victimization history. However, when examining such outcomes *within* victimization profiles, and comparing with nonvictims, we expect to find few gender differences. In other words, gender differences in outcomes within victimization groups are not expected to exceed gender differences for a nonvictimized population (Hypothesis 2). Such a finding would argue against theories of women victims' greater vulnerability to pathology. Instead, we predict that psychological and physical distress will vary primarily by victimization history, and the most victimized individuals will be the most distressed (Hypothesis 3).

Method

Procedure

Data came from the National Violence Against Women Survey, which was conducted from November 1995 to May 1996 using computer-assisted telephone interviewing (Inter-University Consortium for Political and Social Research, 2000). Patricia Tjaden and Nancy Thoennes, principal investigators, designed the survey questionnaire. To draw a national sample, a random-digit dialing was used to target households with a telephone in all 50 states and the District of Columbia. A total of 8,000 men and 8,000 women completed the interview. Interviewers introduced the survey to respondents as a survey on personal safety (see Tjaden & Thoennes, 2000, for further sampling details).

Participants

Survey respondents were equally divided by gender, with a slightly higher age for women (44.2 years) compared with men (42.5 years). Over 80% of the sample identified as White, 9.5% Black or African American, 5% Mixed, 2% Asian or Pacific Islander, 1% Hispanic, and 1% Native American or Alaskan Native. The majority of the sample, 65%, was either married or cohabitating as common-law partners; 17% reported a previous marital relationship (divorced, separated, or widowed); and 18% were single and had never been married at the time of the survey. Half of the sample reported having some college, with a range from elementary school only (3%) to postgraduate education (10%). The median reported house-

hold income was within the range of \$35,000–\$50,000 per year (however, nearly one third of respondents refused to answer income questions).

Measures

Interpersonal Aggression

Summary statistics for all scales appear in Table 1. Measures of interpersonal aggression assessed personal experiences of specific behaviors. Some events were assessed across the life span (particularly sexual violence), whereas others differentiated between childhood and adult episodes (physical abuse). All items used behaviorally specific language, avoiding stigmatized terms such as *rape* and *stalking*. Each interpersonal aggression item had a dichotomous yes–no response option. We obtained continuous scale scores for each type of aggression, with higher scores indicating a more extensive history of aggressive victimization. In the creation of each of these scales, we did not privilege one act over another (no weighting).

Adult physical assault. According to the survey, physical assault involved behaviors that “threaten, attempt, or actually inflict physical harm.” More specifically, the violence items from the Conflict Tactic Scale (Straus, 1979) asked if, as an adult, the respondent had experienced any of 12 behaviors from another adult (e.g., “slap or hit you,” “beat you up,” “hit you with an object”). Forty-five percent of the men and 31% of the women had experienced at least one physically aggressive event as an adult. After summing these items into a scale, we found an alpha coefficient of .88.

Child physical assault. Using the same Conflict Tactic Scale items detailed previously, respondents described whether any parent, stepparent, or guardian had ever threatened, attempted, or inflicted physical harm against them when the respondent was a child. Because no age range was specified, the definition of “child” was left to the discretion of the respondents. Over half of the men (54%) and 40% of the women had experienced at least one of these events in childhood, and the 12-item scale had an alpha coefficient of .77.

Adult emotional abuse. Experience of emotional abuse was determined with items from the Canadian Violence Against Women Survey (<http://www.statcan.ca/english/sdds/3896.htm>), divided into three subscales. In the first subscale, 12 questions inquired into the current spouse or live-in partner’s behavior toward the respondent (e.g., “is jealous or possessive,” “tries to limit contact with family and friends,” “frightens you”). Using the same 12 items, the second and third subscales asked about relationships with a previous spouse and past live-in partner, respectively. Respondents received a score of zero for a subscale if they did not have a current spouse

or live-in partner (Subscale 1), previous spouse (Subscale 2), or previous live-in partner (Subscale 3). We summed items within each subscale (subscale alphas averaged .91) and then computed a mean score across the three. Approximately half this sample of 16,000 (51% women and 48% of the men) had experienced at least one emotionally abusive behavior from at least one spouse or partner.

Lifetime sexual violence. The survey defined sexual violence as “any unwanted sexual experience you may have had as an adult or child.”¹ Five different acts were queried: (a) vaginal, (b) oral, and (c) anal penetration with penis, (d) vaginal or anal penetration with fingers or object, and (e) attempted vaginal, oral or anal sex. These sexual violence questions were adopted from the National Women’s Study (Resnick, Kilpatrick, Dansky, Saunders, & Best, 1993). Eighteen percent of the women and 3% of the men had experienced some form of sexual violence. We summed the five items into a scale (Cronbach’s $\alpha = .84$).

Stalking. The survey defined stalking as a “course of conduct directed at a specific person that involves repeated visual or physical proximity, nonconsensual communication, verbal, written, or implied threats, or a combination thereof that would cause fear in a reasonable person.” The survey’s principal investigators developed eight questions to ascertain stalking behaviors, such as any person (other than bill collectors, telephone solicitors, or other salespeople) following them, showing up at places of employment or home, leaving things for them against their will, or vandalizing their property. This scale, based on a sum of the eight items, demonstrated good internal consistency ($\alpha = .83$). Nearly a third of the women (32%) and a quarter of the men (26%) had experienced at least one of the stalking behaviors.

Mental and Physical Health Outcomes

The survey assessed outcomes independent of and prior to the assessment of aggression, so that participants’ descriptions of aggressive experiences would not bias their symptom reports. Past victimization research has emphasized the value of this approach, which reduces biased responding and does not require respondent insight into event–symptom relations (e.g., Cortina, Magley, Williams, & Langhout, 2001; Resnick et al., 1993). Because we were interested in the full range of symptom severity rather than in arbitrarily defined cut scores, we did not attempt to diagnose participants on the basis of these items.

Depressive symptoms. A depressive symptom inventory consisted of eight items from two subscales—Mental Health and Vitality—of the Medical Outcomes Study Short Form-36 Health Survey, U.S. Acute Version 1.0 (MOS SF-36; Ware, Snow, Kosinski, & Gandek, 1993). All items inquired about psychological functioning during the previous week. Following the stem, “How often in the past week,” sample items read “have you felt downhearted and blue?,” “did you feel worn out?,” and “have you been a happy person?” Participants responded on a scale from 1 (*never*) to 4 (*most of the time*). Positive items were reverse scored, such that higher scores on the resulting overall measure indicated greater depressive symptomatology. We then summed the eight items, and Cronbach’s alpha for the scale was .77. A prior validation study of the instrument reported excellent reliability and validity (Ware et al., 1995).

Psychoactive drug use. Participants responded to six dichotomous (yes–no) queries about drug usage during the previous month. By summing responses to these questions, we created three variables to indicate (a) use of prescription psychoactive drugs (that is, tranquilizers, antidepressants, and/or painkillers), (b) use of illicit drugs (marijuana and/or “other recreational drugs [crack, heroin, angel dust]”), and (c) overall use of drugs. This last index combined across prescription and illicit drugs to account for proper use of prescribed psychoactive drugs, improper or illegal use of prescriptions, and use of illegal drugs

Table 1
Summary Statistics by Gender for Independent and Dependent Measures

Scale	Range	Women (<i>n</i> = 8,000)		Men (<i>n</i> = 8,000)	
		<i>M</i>	(<i>SD</i>)	<i>M</i>	(<i>SD</i>)
Adult Physical Assault	0–12	1.13	(2.3)	1.71	(2.6)
Child Physical Assault	0–12	0.97	(1.7)	1.31	(1.8)
Adult Emotional Abuse	0–12	0.87	(1.4)	0.68	(1.1)
Lifetime Sexual Violence	0–5	0.33	(0.8)	0.05	(0.3)
Lifetime Stalking	0–8	0.84	(1.64)	0.61	(1.39)
Depression	1–32	15.63	(4.3)	14.63	(4.0)
Alcohol Use	0–7	0.33	(0.50)	0.56	(0.73)
Prescription Drug Use	0–3	0.23	(0.54)	0.15	(0.43)
Illicit Drug Use	0–3	0.02	(0.14)	0.05	(0.24)
Overall Drug Use	0–6	0.25	(0.57)	0.20	(0.52)
General Health ^a	–8.41–1.87	–0.02	(2.03)	0.02	(2.01)

^a These items were *z* scored, explaining why this scale ranges into negative values.

¹ Unfortunately, the survey did not differentiate between adult and child experiences of sexual violence, so this measure should be regarded as an assessment of “lifetime” experiences.

Alcohol use. Two standard quantity/frequency questions, similar to those used in the National Health and Leisure Time Survey (Wilsnack, Klassen, & Wilsnack, 1984), inquired about recent alcohol consumption. One asked the number of days alcohol had been consumed during the previous 2 weeks, and the other requested the average number of drinks consumed per drinking occasion during those 2 weeks. We multiplied the two numbers to create an index of the estimated number of drinks consumed during the previous 2 weeks. From this index, we created an eight-level ordinal variable (to reduce problems of nonnormality in the distribution). This variable captured the full range of possible drinking, from abstinence to moderate drinking to extreme abuse (i.e., an average of 14 or more beers, glasses of wine, or drinks per day). This approach to assessing alcohol consumption has appeared in numerous prior studies of normal and pathological drinking in the general population (e.g., Cooper, Russell, Skinner, Frone, & Mudar, 1992; Stacy, Widaman, Hays, & DiMatteo, 1985) and is widely accepted as a brief method of estimating recent alcohol intake.

Physical health. We created a general physical health index using three variables: (a) the widely used self-rating of overall health (from the MOS SF-36; Ware et al., 1993), which has a 5-point scale from 1 (*poor*) to 5 (*excellent*); (b) history of a serious injury that is disabling or interferes with normal activities (yes–no); and (c) history of a chronic disease or health condition that is disabling or interferes with normal activities (yes–no). After standardizing responses to each of the three variables, the values were summed for use as a health index.

Results

Overview

We began analyses by clustering respondents on the basis of their victimization scale scores to identify distinct histories or profiles of aggressive experiences. This clustering accounts for similarities in both the type and extent of events experienced. We then explored the demographic make-up of each profile group, paying particular attention to gender so as to test Hypothesis 1. To investigate links among victimization profiles, gender, and outcomes, we conducted multivariate analyses of covariance (MANCOVAs) followed by univariate analyses of covariance (ANCOVAs). The ANCOVAs followed a within-group format, comparing gender differences in outcomes for each victimization group with gender differences in outcomes for a nonvictimized group. These analyses essentially tested whether gender disparities in symptom elevation remained after holding victimization history constant (testing Hypothesis 2). They also indicated whether outcomes differed as a function of particular victimization histories (testing Hypothesis 3).

Cluster Analysis: Identification of Profiles

After standardizing the five aggressive event scale scores, we submitted them to *k*-means cluster analysis (Hartigan, 1975) to identify distinct clusters or profiles of aggressive events. This nonhierarchical data analysis technique used an algorithm to partition individual cases into a prespecified number (*k*) of clusters, based on their five event scores, in a manner that maximized between-cluster differences and minimized within-cluster variance. Included in this analysis were those individuals who had affirmatively endorsed at least one item on at least one of the event scales ($n = 12,273$). We requested five-, six-, and seven-cluster solutions, retaining the last for further analysis. This decision was based on theoretical interest and the need for cell sizes that are large enough for interpretation and generalizability.

Each group's profile of means on the *z*-scored interpersonal aggression scales appears in Figure 1. According to this figure, members of Group 1 ($n = 1,713$) primarily reported a history of childhood physical abuse, with little else in the way of interpersonal victimization. Group 2 ($n = 1,802$) described adulthood histories of psychological and physical aggression. Individuals in Group 3 ($n = 509$) noted extensive histories of sexual abuse and assault, but relatively little other incidence of interpersonal violence. Group 4 ($n = 509$) members disclosed multiple types of interpersonal victimization, excluding sexual violence. This group thus had a history of child and adult physical abuse, adult emotional abuse, and adult stalking. Group 5 ($n = 849$) was characterized by a high incidence of stalking but little other aggressive victimization. Group 6 ($n = 244$), the smallest profile group, had elevations on all five event scales. This group has important theoretical distinctions from Group 4, in that Group 6 experienced multiple categories of interpersonal aggression including sexual abuse and assault. The largest group by far (Group 7; $n = 6,646$) contained those who had experienced very few aggressive events but scored greater than zero on at least one of the five scales. Finally, in addition to these seven, we created an eighth profile group that comprised individuals with no score on any event scale (i.e., no interpersonal aggression in their reported histories; $n = 3,728$); this nonvictimized Group 0 then served as a comparison group.

Chi-Square Analyses: Demographics of Profile Groups

Table 2 presents the demographics of each of these eight profile groups. With chi-square and *F* tests, we found significant relations between group membership and gender, $\chi^2(7, N = 16,000) = 842.83, p < .001$; race, $\chi^2(14, N = 15,838) = 96.36, p < .001$; marital status, $\chi^2(14, N = 15,919) = 816.14, p < .001$; age, $F(7, 15992) = 61.36, p < .001$; income, $F(7, 9748) = 9.56, p < .001$; and education, $F(7, 15934) = 28.46, p < .001$.

A review of profiles allowed us to consider gender dissimilarity within and between groups, assessing differences in reported victimization histories (testing Hypothesis 1). Two of the largest gender differences emerged for Groups 3 (severe sexual violence) and 6 (multiple events with sexual violence), which contained over 90% women. Large gender differences also emerged in the memberships of Groups 1 (childhood physical, nonsexual abuse) and 4 (multiple events without sexual violence), which were approximately two thirds men. In particular, the childhood physical abuse group (Group 1) contained 1,150 men—that is, 14% of the entire male sample—whereas only 563 women appeared in this group. Group 7 (minimal events) was evenly divided by gender.

The racial make-up of each profile group largely reflected that of the overall sample. However, Black respondents were disproportionately likely to appear in Group 2 (adult physical/psychological aggression), and non-Black minority respondents appeared disproportionately in Group 4 (multiple events without sexual violence). Regarding age and group membership, we particularly noted that older respondents were most likely to deny any history of interpersonal aggression. Differences in marital status by group membership were especially apparent for divorced individuals, who were disproportionately represented in Groups 2 (adult physical/psychological aggression) and 6 (multiple events with sexual violence). Income differences were also most striking for Group 6 (multiple victimizations including sexual violence)—the poorest

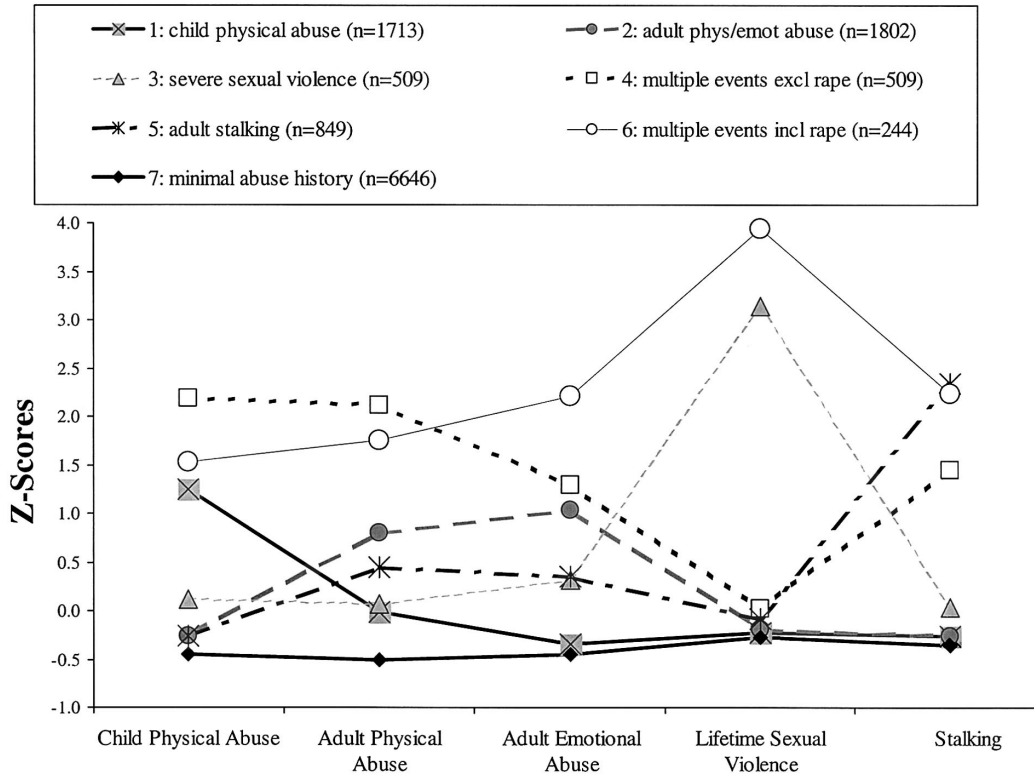


Figure 1. Profiles of mean interpersonal aggression exposure for each victimized group. adult phys/emot abuse = adult physical and emotional abuse; w/o = without; w/ = with.

of all profile groups. Regarding educational differences across groups, Groups 2 (adult physical and emotional abuse) and 4 (multiple victimization without sexual violence) stood out as the least educated.

MANCOVA

We conducted a MANCOVA to examine the effects of gender and victimization profile on the collective outcomes (i.e., depression, alcohol use, prescription drug use, overall drug use, and physical health). Covariates² in these analyses were age, race (White, Black, and non-Black minority), marital status (currently partnered or married, formerly married, and never married), and educational attainment. Note that the chi-square analyses, discussed previously, demonstrated a strong relation between the two independent variables—gender and profile group—in this analysis. Thus, these two variables would not be orthogonal (i.e., independent from each other), yielding an unbalanced design. Lack of balance in the design creates problems of multicollinearity among factors. One remedy for unbalanced designs is to equalize cell sizes (Applebaum & Cramer, 1974; Maxwell & Delany, 1990). We accomplished this by drawing a random sample of 50 individuals from each of the 16 Gender × Profile groups,³ yielding an overall subsample size of nearly 800 for these analyses. Outcome means, separately for each randomly drawn Gender × Profile group, appear in Table 3.⁴

The balanced-design MANCOVA⁵ revealed a multivariate main effect of gender, Wilks’s $\Lambda = .93, F(5, 731) = 10.61, p < .001$, and a multivariate main effect of victimization profile, Wilks’s

$\Lambda = .89, F(35, 3077) = 2.49, p < .001$. The multivariate interaction between gender and profile did not emerge as significant, Wilks’s $\Lambda = .95, F(35, 3077) = 1.03, ns$.

Within-Profile ANCOVAs

After finding significant multivariate effects, we conducted more in-depth, within-profile analyses, to pinpoint the sources of

² Designating these variables as covariates assumes no interactions between the covariates and independent variables (assumption of homoskedasticity of regression in ANCOVA). To test the appropriateness of this assumption, we conducted a multivariate analysis of variance, designating these variables as dichotomized independent variables rather than covariates. No two-way or higher order interactions involving age, race, marital status, or education emerged significant. Thus, we assumed no violation of the assumption of homoskedasticity and proceeded with the ANCOVAs as described in the text.

³ An exception to this sampling strategy was the retention of all men in Groups 3 and 6 (47 and 24 men, respectively) because of their low representation in those groups.

⁴ We were unable to examine prescription versus illicit drug use separately because of extremely low use of illicit drugs within some of the randomly drawn cells. Thus, we only conducted outcome analyses on the overall and prescription drug use variables.

⁵ Analyses of outcomes using the full sample of 16,000 yielded substantively similar results to the balanced design. However, the unbalanced design interfered with our ability to tease apart effects of gender versus victimization history. We therefore focused on the balanced-design analyses described in the text.

Table 2
Sample and Profile Group Demographics

Demographic	Full sample (N = 16,000)	Group 0 No abuse (n = 3,728)	Group 1 Child phys (n = 1,713)	Group 2 Adult phys (n = 1,802)	Group 3 Sex violence (n = 509)	Group 4 Multi w/o sex (n = 509)	Group 5 Stalking (n = 849)	Group 6 Multi w/sex (n = 244)	Group 7 Minimal (n = 6,646)
Gender (%)									
Male	50	44.4	67.1	56.4	9.2	66.2	43.6	9.8	51.2
Female	50	55.6	32.9	43.6	90.8	33.8	56.4	90.2	48.8
Race (%)									
White	81.3	83.2	80.6	77.6	80.8	73.9	80.5	78.9	82.2
Black	9.1	8.5	8.0	12.9	8.9	8.6	10.9	7.9	8.5
Non-Black minority	9.6	8.3	11.4	9.5	10.3	17.5	8.8	13.2	9.2
Marital (%)									
Partner/spouse	64.9	69.7	67.2	53.0	57.4	50.1	50.1	44.3	68.4
Past married	16.9	10.5	10.0	32.8	21.2	29.5	25.6	42.2	14.4
Never married	18.2	18.9	22.7	13.9	21.2	20.4	23.6	13.5	16.8
Age (in years)									
M	44.12	46.13	40.12	41.49	38.43	38.23	37.94	40.20	44.68
SD	16.97	17.65	13.72	12.68	12.64	11.37	12.57	11.71	16.32
Income ^a									
M	2.96	2.91	3.15	2.86	2.86	2.86	3.06	2.45	2.99
SD	1.32	1.30	1.29	1.32	1.20	1.34	1.32	1.35	1.33
Education ^b									
M	4.82	4.80	4.92	4.59	4.82	4.59	5.04	4.73	4.87
SD	1.21	1.23	1.21	1.12	1.09	1.09	1.10	1.10	1.24

Note. Child phys = child physical assault; Adult phys = adult physical assault; Multi w/o sex = multiple types of interpersonal victimization, excluding sexual violence; Multi w/sex = multiple types of interpersonal victimization, including sexual violence.

^a Income categories ranged from 1 (under \$20,000) to 5 (over \$80,000); 3 = income between \$35,000 and \$50,000. ^b Education ranged from 1 (no formal education) to 7 (postgraduate degree); 4 = high school diploma and 5 = some college.

Table 3
Outcome Means (and Standard Deviations) for Each Randomly Drawn Gender × Profile Group

Outcome	Group 0 No abuse (n = 100)	Group 1 Child phys (n = 100)	Group 2 Adult phys (n = 100)	Group 3 Sex violence (n = 97)	Group 4 Multi w/o sex (n = 100)	Group 5 Stalking (n = 100)	Group 6 Multi w/sex (n = 74)	Group 7 Minimal (n = 100)
Depression								
Overall	13.62 (3.6)	15.61 (4.3)	15.65 (4.8)	16.65 (4.6)	16.46 (4.4)	16.06 (4.2)	16.80 (4.9)	16.31 (4.5)
Male	13.51 (3.6)	15.33 (4.1)	15.09 (4.1)	16.64 (4.9)	15.92 (4.1)	15.08 (4.7)	15.75 (4.5)	15.76 (4.6)
Female	13.74 (3.7)	15.90 (4.5)	16.19 (5.4)	16.66 (4.2)	16.98 (4.7)	16.32 (3.6)	17.83 (4.9)	16.87 (4.3)
Alcohol								
Overall	0.44 (0.5)	0.46 (0.6)	0.57 (0.9)	0.49 (0.9)	0.58 (0.9)	0.43 (0.5)	0.41 (0.5)	0.48 (0.6)
Male	0.57 (0.6)	0.63 (0.7)	0.67 (1.1)	0.61 (1.2)	0.85 (1.1)	0.56 (0.5)	0.59 (0.6)	0.63 (0.6)
Female	0.31 (0.5)	0.29 (0.5)	0.47 (0.6)	0.38 (0.5)	0.31 (0.5)	0.31 (0.5)	0.23 (0.5)	0.33 (0.5)
Prescription drugs								
Overall	0.03 (0.3)	0.34 (0.7)	0.24 (0.6)	0.26 (0.6)	0.33 (0.7)	0.18 (0.4)	0.39 (0.7)	0.31 (0.6)
Male	0.02 (0.1)	0.35 (0.7)	0.17 (0.5)	0.21 (0.5)	0.23 (0.5)	0.16 (0.4)	0.38 (0.6)	0.31 (0.7)
Female	0.04 (0.3)	0.34 (0.7)	0.32 (0.7)	0.31 (0.6)	0.43 (0.8)	0.21 (0.4)	0.41 (0.7)	0.32 (0.6)
Overall drugs								
Overall	0.04 (0.3)	0.36 (0.7)	0.27 (0.6)	0.32 (0.7)	0.42 (0.9)	0.25 (0.5)	0.58 (0.8)	0.36 (0.7)
Male	0.02 (0.1)	0.38 (0.7)	0.20 (0.5)	0.28 (0.6)	0.39 (0.9)	0.25 (0.6)	0.71 (1.0)	0.35 (0.7)
Female	0.06 (0.3)	0.35 (0.7)	0.33 (0.7)	0.35 (0.7)	0.45 (0.8)	0.25 (0.4)	0.45 (0.7)	0.36 (0.6)
Health								
Overall	0.177 (0.6)	0.007 (0.7)	-0.109 (0.8)	-0.092 (0.8)	-0.222 (0.9)	-0.076 (0.7)	-0.320 (0.8)	-0.009 (0.6)
Male	0.193 (0.5)	0.012 (0.7)	-0.195 (0.8)	-0.133 (0.8)	-0.144 (0.8)	-0.066 (0.7)	-0.218 (0.8)	0.25 (0.6)
Female	0.133 (0.6)	-0.017 (0.7)	-0.004 (0.8)	-0.052 (0.7)	-0.277 (0.9)	-0.083 (0.7)	-0.397 (0.8)	-0.063 (0.7)

Note. Child phys = child physical assault; Adult phys = adult physical assault; Multi w/o sex = multiple types of interpersonal victimization, excluding sexual violence; Multi w/sex = multiple types of interpersonal victimization, including sexual violence.

these effects. These follow-up ANCOVAs compared outcomes by gender for each victimized group against outcomes for Group 0, the nonvictimized group (continuing to control for age, race, marital status, and education). In other words, we conducted a series of 2 (men vs. women) \times 2 (Group 0 vs. Group 1; Group 0 vs. Group 2, etc.) ANCOVAs for each outcome, which is conceptually analogous to simple planned contrasts. This analysis determines whether specific aggressive event histories are associated with significant elevations in psychological or health symptoms (compared with nonvictimized individuals) and whether this elevation differs by gender. Although these analyses account only for type and extent of victimizing events (ignoring other factors such as injury and fear during the events), we expected few gender differences in relations between victimization and outcomes. That is, we expected that Gender \times Profile interactions would not reach significance, consistent with Hypothesis 2. We also expected to find significant main effects of victimization profile, as predicted by Hypothesis 3.

Table 4 and Figure 2 demonstrate alcohol abuse to be the only outcome that differed consistently as a function of gender. That is, regardless of victimization history, men tended to drink more than women. The largest gender disparity surrounded drinking within Group 4. To gauge the magnitude of the disparities, we computed effect sizes using Cohen's formula (Cohen, 1977). The average effect size for gender differences in drinking was .50.

By contrast, depression, overall drug use, and prescription drug use varied strongly and consistently by victimization history, regardless of gender. Specifically, members of each victimized group disclosed significantly more depressive symptoms and use of drugs compared with the nonvictimized Group 0, and this pattern of effects held for both women and men. Average effect sizes for profile group differences were .67 (depression), .60 (overall drug use), and .51 (prescription drug use).

Physical health also tended to suffer as a function of victimization (average $d = .49$), with Groups 4 and 6 showing considerable dips from the no-victimization group. In fact, Groups 4 and 6 demonstrated some of the largest deviations from Group 0 in their rates of depressive symptoms, drug use, and health (effect sizes averaged .80, .76, and .63, respectively). No Gender \times Profile interactions emerged significant for any outcome.

Discussion

The current study involves an in-depth, gendered approach to understanding interpersonal aggression across the life span, yielding both substantive and methodological contributions to the literature. A very large sample size and wide range of aggressive experiences permitted isolation of different profiles of victimization in the life histories of both women and men. As a result, we were able to factor such profiles into our examination of outcomes and rigorously test the theory of "feminine vulnerability" to negative outcomes following victimization. Interestingly, although certain victimization histories clearly varied along gender lines, these histories did not relate to psychological or physical health outcomes differentially by gender. In the following text, we discuss such findings and their implications in greater detail.

In this study, we used a novel approach to studying patterns of interpersonal victimization: *k*-means cluster analysis. This analysis revealed eight distinct profiles of exposure to interpersonal aggression—from no events to minimal events to multiple categories of

events. Of note, this analysis isolated histories of sexual victimization and, conversely, focused on multiple exposures to aggression in the absence of sexual violence. Similarly, one group emerged with stalking as its sole victimization experience, allowing us to examine outcomes of this understudied form of aggression without the confound of other aggressive events in the same individuals' histories. In sum, *k*-means cluster analysis proved a very useful tool for capturing complex histories of interpersonal aggression and examining particular victimization profiles in detail. Future studies can follow the analytic precedent set here and use similarly idiographic approaches to understand patterns of interpersonal victimization.

After identifying profiles, we reviewed their demographic differences. Whereas the majority of both women and men reported no or minimal victimization history (Groups 0 and 7), over one third of this representative sample disclosed significant levels of interpersonal aggression in their life histories. Confirming Hypothesis 1, women comprised over 90% of the two groups with notable sexual abuse and assault histories: Group 3 (sexual violence only) and Group 6 (multiple categories of events including sexual violence). These results are highly consistent with previous research, documenting elevated sexual abuse and assault risk for women and girls. This may partly reflect an underreporting of sexual victimization by men; nevertheless, almost 1% of men ($n = 71$) disclosed sexual violence histories that were extensive enough to fit the profiles of Groups 3 and 6 (with 3%, $n = 239$, of men overall reporting at least some history of sexual violence). In addition, men dominated in experiences of severe childhood physical abuse without sexual abuse (67% of Group 2) and multiple events without sexual violence (66% of Group 4). Thus, male gender may increase risk for exposure to nonsexual psychological and physical abuse in childhood and beyond.

Other demographic differences between profile groups were also noteworthy. The group with the most extensive interpersonal aggression exposure—Group 6—reported disproportionately high rates of divorce and poverty as well as lower education levels. The reason for this pattern is unclear from these cross-sectional data. Past longitudinal research has suggested that women's sociodemographic variables function as both risk factors for and consequences of victimization (Byrne, Resnick, Kilpatrick, Best, & Saunders, 1999). Specifically, newly divorced women, with and without a prior assault history, have significantly increased risk of future victimization. In addition, previously assaulted women tend to encounter greater rates of poverty, divorce, and unemployment (Byrne et al., 1999). Reciprocal and mediational relations also seem plausible, with victimization hindering education and healthy relationships, which, in turn, lower income and increase the likelihood of divorce, which then increases risk for further victimization, and so forth. Different explanations are likely true for different individuals, and future person-centered, longitudinal work can shed more light on relations between victimization and socioeconomic status over the life course.

Confirming Hypothesis 2, analyses revealed no interactive effects of gender and interpersonal aggression on psychological and physical outcomes, once lifetime exposure to aggressive events was adequately taken into account. Further, in analyses that compared gender differences within victim groups with gender differences among nonvictims, women's symptoms were not significantly more elevated than men's symptoms on any outcome. Taken together, these results failed to support hypotheses of wom-

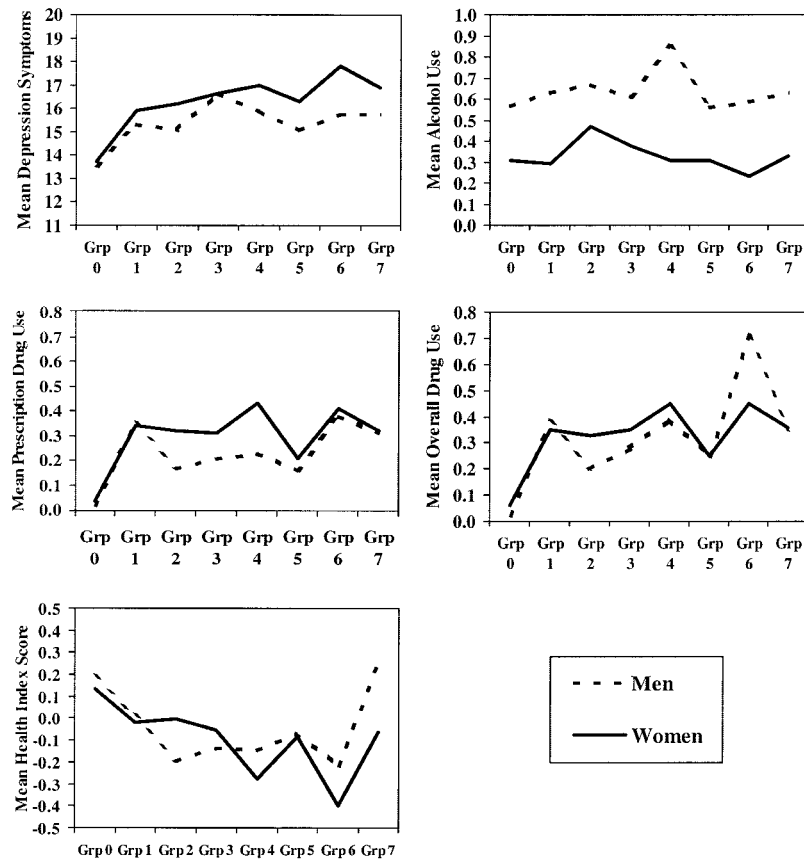
Table 4
Analysis of Covariance Results: Comparing Each Victim Group to the Nonvictimized Group 0 on Outcomes

Outcome and source	Grp 1, F(1, 185) Child phys	Grp 2, F(1, 189) Adult phys	Grp 3, F(1, 188) Sex violence	Grp 4, F(1, 189) Multi w/o sex	Grp 5, F(1, 188) Stalking	Grp 6, F(1, 165) Multi w/sex ^a	Grp 7, F(1, 190) Minimal
Depression							
Gender (G)	0.805	1.105	0.112	1.101	0.325	2.580	1.675
Profile (P)	12.402***	9.800**	24.726***	17.757***	15.850***	25.359***	24.043***
G × P	0.084	0.750	0.078	0.491	0.215	2.833	0.987
Alcohol							
G	12.008***	5.303*	5.763*	15.649***	9.837***	14.130***	12.635***
P	0.015	1.155	0.010	1.659	0.000	0.077	0.350
G × P	0.356	0.085	0.000	2.063	0.003	0.431	0.184
Prescription Drugs							
G	0.017	2.118	1.066	4.560*	0.422	0.060	0.024
P	18.400***	6.439**	7.955**	14.970***	5.147*	19.562***	15.976***
G × P	0.017	1.105	0.101	1.002	0.000	0.030	0.001
Overall drugs							
G	0.026	1.218	0.565	1.138	0.022	1.450	0.053
P	19.262***	6.977**	10.787***	15.290***	9.671**	32.390***	19.167***
G × P	0.016	0.517	0.000	0.000	0.222	2.359	0.007
Health							
G	0.446	0.100	0.212	0.913	0.024	1.603	0.519
P	2.655	6.861**	5.729*	9.735**	4.432*	18.688***	6.118**
G × P	0.223	1.204	0.905	0.050	0.044	0.363	0.063

Note. Analysis is 2 × 2, controlling for age, race, marital status, and income. Grp = group; Child phys = child physical assault; Adult phys = adult physical assault; Multi w/o sex = multiple types of interpersonal violence, excluding sexual violence; Multi w/sex = multiple types of interpersonal violence, including sexual violence.

^a Analyses involving Group 6 involve 100 women but only 74 men (i.e., 24 male victims and 50 male nonvictims), because only 24 out of 8,000 men disclosed victimization histories that fit this group's profile.

* $p < .05$. ** $p < .01$. *** $p < .001$.



Note: Grp 0 = No Victimization; Grp 1 = Child Physical Abuse; Grp 2 = Adult Physical/Emotional Abuse; Grp 3 = Severe Sexual Violence; Grp 4 = Multiple Events Without Sexual Violence; Grp 5 = Stalking; Grp 6 = Multiple Events With Sexual Violence; Grp 7 = Minimal Events.

Figure 2. Mean levels (corrected for influence of covariates) of each outcome, by gender and profile. Grp = group.

en's greater vulnerability to pathological outcomes following interpersonal aggression. Instead, findings upheld theories that apparent "feminine vulnerability" is simply a product of gender-linked exposure (Bromet et al., 1998; Brewin et al., 2000; Perkonig et al., 2000; Wolfe & Kimerling, 1997). That is, gender clearly determined exposure to certain types of aggressive situations; these situational experiences, in turn, strongly related to certain symptoms of psychological and physical distress. Rather than identifying female gender as the source of increased risk for trauma-related disorders, a more tenable argument is to locate the source of this risk within aggressive situations. Thus, instead of feminine vulnerability, *situational vulnerability* may be the more appropriate conceptualization of risk.

In past studies finding gender differences in interpersonal violence outcomes, gender may have served as a proxy for history of exposure to aggression. Of course, much past research on these theories addressed PTSD as an outcome, which we were unable to examine. However, we did investigate relations to symptoms of trauma-related disorders (depression, alcohol abuse) that have even more of a gender disparity in base rates than PTSD, still

finding little support for the feminine vulnerability hypothesis. Nonetheless, the extension of current findings to PTSD will be an important direction for future research.

Results also supported Hypothesis 3—suggesting that, for both genders, exposure to greater interpersonal aggression across the life span relates to more pathology. In particular, Groups 4 and 6 (multiple events, both with and without sexual violence) tended to report the most extensive depressive symptoms, drug use, and health impairment. These findings suggest that exposure to a constellation of interpersonally aggressive events increases risk that mental and physical health problems will manifest. Experiencing constellations of aggression that include sexual violence appears to be particularly detrimental to well being. These results underscore the need for thorough victimization history screening in treatment settings, assessing the full range of potential aggressive events across the life course for both genders. Our finding of impairment in not only psychological but also physical health suggests that mental health providers should ensure that victimized clients are under the regular care of a medical doctor. Likewise, medical professionals should be certain to assess for aggressive

experiences when attempting to identify factors contributing to physical illness. This is especially important, as it is more likely that victims (particularly those from non-Anglo cultures) will present complaints at primary care or medical settings than in psychologists' offices. Medical professionals can facilitate these patients' access to mental health resources by conducting thorough screenings and making referrals to trauma specialists when appropriate.

The current study expands the trauma and victimization literature by simultaneously considering physical and psychological aggression. In fact, our profile approach provided a unique opportunity to isolate and examine stalking experiences. According to the demographics of the group whose victimization histories primarily consisted of stalking, targets tended to be both men and women, married and unmarried, young (under age 40, with over one quarter being under age 30), and middle- to upper-middle class. Further, they reported higher rates of depressive symptoms and drug use than individuals with no victimization history. Effects appeared to hold across both genders, with women and men similarly affected by the experience. These data lend support to emerging research that demonstrates the dangerous nature of willful, malicious, and repeated following. Although this behavior is purely psychological (that is, prior to any escalation into physical violence), it nevertheless takes a toll on victims' psychological and physical well being.

We were unable to tease apart emotional abuse from physical manifestations of interpersonal aggression. Groups with elevated rates of emotional abuse in adulthood tended to report other forms of victimization as well, particularly adult physical abuse. Thus, isolating emotional abuse would fail to capture the reality that this form of psychological aggression tends to co-occur with physical aggression. In many cases, this psychological and physical victimization may have occurred within the same intimate partnership, because past domestic violence studies have documented emotional abuse to be quite common (if not standard) in physically violent relationships (e.g., Kemp, Green, Howanitz, & Rawlings, 1995; Murphy & O'Leary, 1989; Straus, 1979; Straus, Hamby, Boney-McCoy, & Sugarman, 1996).

Like any research, this study is not without its limitations. Even the most sophisticated survey methodology brings with it certain drawbacks. Our cross-sectional, correlational data prevent strong inferences regarding causal sequences. In addition—because of the single-source, self-report nature of the data—common method variance or response consistency bias could potentially explain some significant relationships. Minimizing such biases, the survey measured outcomes independent of and prior to assessing interpersonal aggression. Regarding these outcomes, all of our measures have commonly appeared in the social science and health literatures. Nevertheless, the measures of drug use and health were quite brief, limiting their ability to capture drug abuse and health impairment in detail.

Some limitations also pertain to the measurement of interpersonal aggression histories. Respondents' ability to recall accurately events from the distant past—especially childhood—is certainly imperfect, likely yielding underestimates. Further, adjustments for aggressive event experiences in this study and others (e.g., Breslau, Chilcoat, Kessler, Peterson, & Lucia, 1999) assume that events in each category are quite similar for women and men. However, according to now-classic theories of stress and appraisal, subjective appraisal mechanisms can lead groups to differ in the

degree and kind of stress they experience in response to similar events (Folkman & Lazarus, 1986; Lazarus & Folkman, 1984). Violence against women and men is often not comparable in the objective sense either; for example, women tend to sustain greater physical injury (e.g., Langhinrichsen-Rohling, Neidig, & Thorn, 1995; Morse, 1995). If women and men's experiences of aggressive events vary in not only quantity but also quality, then the adjustment for numbers, types, and combinations of types does not completely control for prior victimization. Nevertheless, our simple control was sufficient for gender differences to largely disappear in outcomes, supporting a theory of situational vulnerability. Future studies should pursue this avenue of research further by identifying, in greater detail, features of aggressive situations that increase risk of psychopathology.

In conclusion, the current study suggests that 75% of American adults have experienced at least one act of interpersonal aggression at some point during their lifetimes. These acts take on many behavioral faces, and their psychological and somatic sequelae vary widely. Offering an alternative explanation for apparent gender differences in these outcomes, the current project points to life history of aggressive victimization as a primary source of risk. Future studies can build on this work by focusing on other demographic variables, such as race and socioeconomic status, that appear related to aggression exposure and outcomes. By placing such demographics in the context of whole lives, we can better understand the underlying processes that make certain victim populations seem more vulnerable to distress.

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