The author(s) shown below used Federal funds provided by the U.S. Department of Justice and prepared the following final report:

Document Title:	**Patterns of Violence Against Women: Risk Factors and Consequences**
Author(s):	**Ross Macmillan, Catherine Kruttschnitt**
Document No.:	**208346**
Date Received:	**January 2005**
Award Number:	**2002-IJ-CX-0011**

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Patterns of Violence Against Women: Risk Factors and Consequences

National Institute of Justice Grant # 2002-IJ-CX-0011

Final Report

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I. Introduction

It is now well known that the most distinctive aspect of women's victimization experiences is its relational nature. Females report that over three-quarters (78%) of those who violently victimize them are known to them but males report that they are almost as likely to be victimized by someone known to them (51%) as they are by a stranger (49%).[1] This relational feature of female victimization has contributed to a scholarly preoccupation with distinct forms of violence (partner abuse) or distinct violent incidents (sexual assault) and, as interesting and as important as this research has been, it has left us with relatively little understanding of the patterns of victimization experiences over time and across relationships. This was aptly noted almost a decade ago by the National Panel on Research on Violence Against Women when they concluded "there is little systematic information about the intersection of different forms of violence."[2]

For example, some scholars have suggested that there is an association between violence in one's family of origin and later spousal victimization, but comparatively little work has considered consequences beyond the family. Other research has shown the co-occurrence of different forms of violence (e.g., physical assault and sexual victimization) within particular intimate relationships, but it has not considered the extent to which such victimization experiences traverse relationships. While there is some speculation that dating violence is associated with marital violence, supporting evidence is largely anecdotal and does not address the potential links that may exist in victimization from partners and non-partners. Simply put, whether and how violent victimization is linked over time and across relationships has not been adequately explored. Identifying distinct typologies of violent victimization among women, as well as the risk factors for such

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victimization and its emotional and physical consequences, is critical both to the development of theories of victimization and to the criminal justice practitioners who design services to maximize women's safety.

II. Research Objectives

Our research has three objectives designed to address these omissions in the extant research. First, we examine patterns of physical and sexual victimization over the life span and across a range of victim-offender relationships. Particular types of relationships may be characterized by particular patterns of violent acts. Variation in patterns of violent acts reflect the types of interactions that generally characterize them, their location in time and space, and the psychological feelings that they embody. For example, the nature of intimate relationships may produce specific motivations for violence that reflect the cultural expectations of what males and females should do. At the same time, the nature of on-going interactions in such relationships may produce unique opportunities for multifaceted, repeat victimization that are simply not present in relationships with acquaintances or strangers. In this respect, the nature of the relationship may shape the nature of the violence. Still, little work has mapped out variation in the victimogenic character of different social relationships or to understand why such variation exists or to understand how it is distributed in the population. Our research explicitly examines this issue.

Our focus on the life span also includes a consideration of how violent victimization in childhood or adolescence is related to victimization experiences with partners in adulthood and, as well, how the nature of these experiences influence the

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nature of subsequent victimization experiences. The existence of such patterns can be explained in at least one of two ways. Some scholars have pointed to the possibility of stable characteristics that are set in childhood that increase the probability of repeat victimization over the life course. The most well-known example emerges from those who have studied the intergenerational transmission of violence. Family violence in childhood is thought to provide behavioral scripts that influence the decisions and choices individuals make when selecting partners and activities.[3] Persisting social characteristics can also be influenced by social settings, such as living in high risk neighborhoods, and routine activities that increase victimization risk over both time and personal encounters.[4] Another explanation for why violent victimization experiences may be patterned over time and across relationships relates to how individuals change as a result of their victimization experiences. Support for this perspective comes from both studies that have shown that early abuse increases subsequent alcohol and substance abuse which in turn increase the risk of additional victimization[5] and studies that have looked at childhood abuse as a precursor to both homelessness and subsequent victimization.[6]

While these two perspectives assume that victimization experiences will be patterned over the life course, others have argued that such experiences can be confined to particular relationships or particular life circumstances. Building upon the extensive body of work on criminal offending, risk of victimization is understood in terms of proximity and exposure to a particular offender or particular offenders. In general, such work suggests that victimization should appear as an isolated event rather than a series of events that cut across either relationships or different stages in the life cycle. We

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consider these perspectives in our examination of the scope of women's victimization experiences across relationships and over time.

Second, we consider individual risk factors for the patterns of victimization we identified. While a substantial body of research has developed on the risk factors associated with different victimization experiences, virtually all of this research focuses on distinct types of violence. The risk factors for sexual assault are discussed in isolation from those for child abuse or intimate partner violence.[7] While this research provides an important starting point for our study, we re-examine these findings to determine if they can help us to explain more general patterns of violence that transcend a specific relationship or a specific time in the life course.

Third, we look at the consequences of particular patterns of victimization for both general well-being and post-victimization behavior. We extend a long tradition of inquiry of the effects of victimization on fear of crime by considering the consequences of violence for perceptions of safety.[8] Although there is a wealth of data on the consequences of victimization for mental health, this research also has tended to focus on discrete types of victimization. Because there is evidence that psychological well-being is more likely to be shaped by cumulative experience, rather than discrete experiences, we look at how patterns of victimization affect depression and substance abuse. Finally, we also extend prior research in this area by examining how broad patterns of victimization influence a range of help seeking behaviors: (1) medical care, (2) psychological counseling, (3) calling the police, and (4) talking about the victimization experiences with others.

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III. Data

The data to be used in this research are unique in their documentation of women's experience with violence. The *National Violence against Women Survey* (NVAWS) was jointly sponsored by the National Institute of Justice (NIJ) and the Centers for Disease Control and Prevention (CDC).[9] It is a national telephone survey conducted from November 1995 to May 1996. The national sample is representative of households with a telephone in all 50 states and the District of Columbia. Overall, a total of 8,000 women and 8,005 men were interviewed using a computer-assisted telephone interviewing system. Our analyses focus on female respondents, although future research should examine similarities and differences in the patterns of victimization across genders. The participation rate for the survey was 72 percent, consistent with other high quality surveys of crime and violence.[10] An important facet of the NVAWS data is the large sample size. As our research is based on a cross-classification of violent experiences that are somewhat rare, a large sample size is necessary to provide enough statistical power for our analyses.

A second unique feature of the NVAWS data is the breadth of its measurement of violence experienced by women. A key criticism of prior research on violence against women, including the National Crime Victimization Survey, is that it typically did not effectively measure the various forms of violence experienced by women.[11] This included sexual and physical victimization at the hands of family members, dates, spouses and other men know to the victim. An explicit objective of the NVAWS was to document the various types of violence that women experience while simultaneously identifying the wide range of social relationships. Our analyses will examine the

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multifaceted prevalence of violent victimization from *parents*, *other relatives*, *partners*, *dates*, *acquaintances*, and *strangers*. These are defined as the following:

Parents: Parent, step-parent or guardian;

Other relatives: father, step-father, brother, step-brother, brother-in-law, uncle, grandfather, step-grandfather, male cousin, son/step-son, son-in-law, nephew, nephew-in-law, mother, step-mother, grandmother, step-grandmother, aunt, sister, step-sister, -sister-in-law, other male relative, other female relative;

Partners: current husband, ex-husband, current male partner, current female partner; former male partner; former female partner;

Dates: a boyfriend or date;

Acquaintances: Boss, supervisor, co-worker, co-volunteer, employee, ex-employee, client, customer, patient, student, doctor, nurse, other health professional, teacher, professor, instructor, coach, landlord, minister, priest, rabbi, clergy, friend, acquaintance, neighbor, roommate, service, hired hand, parent of friend, family friend;

Stranger: male stranger, female stranger, both male and female stranger.

The types of violence considered include *sexual assault*, *stalking*, and different types of physical violence. The latter includes being *pushed, grabbed, or shoved*, being *slapped or hit*, having *hair pulled*, being *kicked or bitten*, being *choked or beaten up*, having someone *throw something at them or being hit with some object*, or being *threatened or attacked with a gun or some other form of weapon*.[12,13] For the purposes of our research, we restrict our sample to those who reported at least one current or prior relationship (N =

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6,937) in order to incorporate partner victimization into our analyses.

IV. Prevalence of Victimization

Violent victimization is most likely from parents and partners, followed by dates and acquaintances, followed by relatives and strangers. Partner violence is also characterized by comparatively high rates of all forms of violence (i.e., stalking, sexual assault, and physical victimization).[14]

Likelihood of victimization broken down by type of victimization and victim-offender relationship is reported in Table 1. Although general risk of victimization is low, relationship type has a strong impact upon the type and extent of violence experienced. Risk of being stalked is highest among partner relations (3.8%), over double that found with acquaintances (1.5%) or strangers (1.7%). Risk is lowest among relatives (.2%) and dates (.8%). Sexual victimization is also high in partner relationships (2.8%), yet also among relatives (2.9%) and acquaintances (2.2%). Risk is somewhat lower among dates (1.5%) and strangers (1.4%).

Physical victimization shows a different pattern of risk. In general, risk is highest in child-parent relationships. One-third of women were slapped by a parent, while over 15 percent had an object thrown at them, were hit with an object or were pushed, grabbed, or shoved. Risk of other forms of violence, ranging from having hair pulled to being threatened or attacked with a weapon, varies from 2 to 10 percent.[15] Although there are differences, risk of physical violence is comparable within partner relationships. Here, over 15 percent of women reported being pushed, grabbed, shoved, or slapped and between 8 and 10 percent had their hair pulled, had something thrown at them or were hit

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with something, or were choked or beaten up. Approximately 5 percent of women were kicked or threatened or attacked with a weapon by a partner. Risk of physical violence of any sort is lower among dates, acquaintances, and strangers. In each case, the greatest likelihood of violence involves pushing, grabbing, shoving, and slapping and is typically around 2 percent. All other forms of violence have likelihoods of less than 1 percent. Overall, the lowest rates of physical violence occur among relatives.

Table 1. Victimization Probabilities: Type of Victimization by Relationship, NVAWS 1995.

	Parent	Relative	Partner	Dates	Acquaintance	Stranger
Stalking	N/A	0.002	0.038	0.008	0.015	0.017
Sexual Assault	N/A	0.029	0.028	0.015	0.022	0.014
Choked or Beaten	0.051	0.006	0.101	0.009	0.007	0.007
Throw object or hit	0.177	0.006	0.086	0.008	0.009	0.006
Weapon, Threat or Use	0.017	0.002	0.051	0.005	0.006	0.013
Kicked	0.021	0.003	0.053	0.005	0.006	0.004
Pulled Hair	0.106	0.007	0.086	0.010	0.010	0.007
Slapped	0.334	0.012	0.151	0.019	0.015	0.011
Pushed	0.150	0.011	0.171	0.023	0.021	0.017

V. Violence within Relationships

There are no distinct patterns of violence among relatives, acquaintances, dates, or strangers. In contrast, parent-child relationships involve three distinct patterns of violence. These include no violence, parental aggression, and abuse. The latter is unique in that it involves multiple forms of violence and more serious, injurious

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violence. Similarly, partner relationships involve four distinct patterns of violence. From most to least prevalent, this include no violence, interpersonal conflict, physical abuse, and systematic abuse. The latter is unique in that it involves multifaceted violence including the more serious, injurious types of physical violence, sexual assault and stalking.

Latent class analysis (see description in Appendix A) provides a means of assessing whether particular relationships are characterized by distinct patterns of violence within them. It does so by cross classifying different types of violent acts and then examining the degree to which particularly classes or clusters of violent acts appear within a given relationship. For example, partner relationships may be characterized by several distinct classes of violence that reflect variation in the number and extent of violent acts,[16] while stranger relationships may involve fewer types of violence, perhaps distinguishing sexual and physical.[17]

Goodness of fit statistics show that there is significant variation in the patterning of victimization across relationships (see Table 2). Importantly, a one-class model fits the data by conventional criteria in the cases of relatives, dates[18], acquaintances, and strangers. This indicates that risk of any specific violent act is independent of the risk of experiencing other violent acts within these relationships. If one experiences some type of violence, they are not significantly more likely to experience another form of violence. Thus, there are no identifiable patterns of violence in each of these relationships.[19] In contrast, both parent-child and partner relationships are characterized by more complex patterns of violence. In the former case, a three class model provides the best fit to the data[20]. This indicates that there are three distinct patterns of violence that occur in

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parent-child relationships. Similarly, a four class model of partner violence provides an adequate fit to the data along all three fit criteria. This indicates that there are four distinct patterns of violence that occur among partner relationships.

Table 2. Goodness of Fit Statistics: Type of Violence by Relationship Type, NVAWS 1995.

Relationship	Number of Classes	L2	df	P-value	ID	BIC
Parent	I	6623.68	120	0.000	0.32	5563.75
	II	959.59	112	0.000	0.08	-29.78
	III	172.16	104	0.000	0.02	-746.44
	IV	124.59	97	0.031	0.01	-732.19
Relative	I	153.15	502	1.000	0.01	-4268.35
	II	183.44	493	1.000	0.01	-4158.79
	III	119.34	485	1.000	0.01	-4152.43
	IV	110.43	483	1.000	0.01	-4143.73
Partner	I	6252.65	502	0.000	0.28	1831.15
	II	1370.78	492	0.000	0.07	-2962.65
	III	529.71	482	0.066	0.03	-3715.64
	IV	393.33	473	0.997	0.03	-3772.75
Date	I	548.62	502	0.074	0.03	-3872.81
	II	264.79	492	1.000	0.01	-4068.55
	III	185.79	482	1.000	0.01	-4068.29
	IV	159.04	473	1.000	0.01	-4059.81
Acquaintance	I	437.44	502	0.983	0.02	-3984.29
	II	238.54	492	1.000	0.01	-4095.1
	III	201.71	482	1.000	0.01	-4043.85
	IV	167.57	479	1.000	0.01	-4051.56
Stranger	I	117.68	502	1.000	0.01	-4303.98
	II	195.84	493	1.000	0.01	-4146.54
	III	137.04	485	1.000	0.01	-4134.88
	IV	120.41	479	1.000	0.01	-4098.66

The nature and prevalence of these patterns of violence is seen by the expected probability of reporting a particular type of violence and the overall probability of the

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class of violence in the sample (see Table 3). As discussed in Appendix A, the former indicates the expected likelihood or risk of experiencing each specific type of violence, while the latter indicates the proportion of the sample that is likely to experience each specific class of violence.

In terms of parent-child relationships (see left panel), a first class involves relatively low probability of experiencing any form of violence. All probabilities are less than .16 and all except one are below .05. In addition, there is virtually no likelihood of being threatened or attacked with a weapon, being beaten or choked, or being kicked (.002, .002, and .004, respectively). With a latent class probability of .754, this pattern of violence characterizes almost three-quarters of the sample. We define this pattern as essentially *no violence*.

A second class involves a high likelihood of being slapped (.883), considerably higher likelihood of having something thrown at them or being hit with an object (.562) and being pushed, grabbed or shoved (.510), and moderate risk of having hair pulled (.298). Equally important, risk of the other more severe and more systematic is low. Following from Macmillan and Gartner (1999), we consider violence to be systematic if it requires some a sustained use of force (e.g., beating someone up, choking them) or requires some form of planning (e.g., getting a weapon). This pattern of violence characterizes almost twenty percent of the sample (.199). We consider this class to be characteristic of *physical aggression*.

A final class involves multifaceted violence and substantial risk of the more severe and systematic types of violence. Risk of having something thrown or being hit with an object, being pushed, grabbed, or shoved, having hair pulled, and being slapped

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are very high, and being beaten up or choked (.817 to .984) and risk of being kicked or bitten (.482) and threatened or attacked with a weapon (.349) are also substantial. Importantly, the combined high probabilities for multiple types of violence indicate that this class is characterized by a combination of many different violent acts which makes it quite distinct from the previous class of violence. When combined with the increased prevalence of the more serious forms of violence, this suggests a pattern of violence that might be seen as *abuse*. It characterizes just under 5 percent of the sample.

The distinctions that we draw provide a behavioral basis for current distinctions between and debates around punishment and abuse.[21] While our work cannot speak to general philosophical issues of whether violence can ever be functional, it does suggest that violence experienced by children is not uniform. On a positive note, much of the violence, that is experienced by children is not multifaceted and is generally limited to less severe acts. On a more negative note, there is a subgroup that is not trivial in size and who experience a wide variety of violent acts, including those that are clearly injurious and potentially life threatening. Such violence clearly falls within both legal and colloquial definitions of abuse. These findings underscore the potential limits of treating children's exposure to violence as uniform. Recognizing such distinctions may ultimately be important for understanding how experiences of violence in childhood may increase one's risk of both offending and victimization in later life and their relationship to life chances in general.

Patterned violence is also characteristic of partner relationships with four distinct classes. This is shown in the right hand panel in Table 3. A first class involves very low, almost negligible risk of violence. All probabilities are below .01, indicating that less

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than one percent of the women in this class can be expected to experience any type of violence. This pattern can be seen to characterize over 80 percent of the sample (.813) and can be considered as essentially *no violence*. A second class involves generally high risk of being pushed, grabbed, or shoved (.715), moderate risk of being slapped (.494), and low but non-negligible risk of having something thrown or being hit with an object (.216). Risk of the other seven types of violence, including sexual assault and stalking, is generally low (< .14). The nature of these probabilities suggest that this pattern of violence is unlikely to be multifaceted, not likely to involve the more serious and injurious types of violence, and is not likely to involve sexual assault or stalking. This pattern characterizes just over 8 percent of the sample (.082). This pattern of violence might be regarded as *interpersonal conflict* violence.

A third class characterizes a similar proportion of the sample (.071). Yet, this pattern of violence is more multifaceted. It involves very high probabilities of being pushed, grabbed or shoved (.969), being slapped (.981), and being beaten up or choked (.792). Likewise, the risk of having hair pulled (.598), having something thrown or being hit with an object (.432), being kicked (.318), and being threatened or attacked with a weapon (.250) are substantial. Still, this pattern of violence is largely confined to physical assaults as the risk of being sexually assaulted (.126) and being stalked are comparatively low (.159). As the violence in this class is multifaceted but generally confined to physical violence, we define this pattern of violence as *physical abuse*.

A final class of violence is also multifaceted, but involves comparatively greater risk of the more serious and injurious types of violence and comparatively high risk of both sexual assault and stalking. In general, this pattern of violence involves having

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something thrown or being hit with an object (1.000), being pushed, grabbed, or shoved (.993), having hair pulled (.975), being slapped (.992), being beaten up or choked (.951) and being kicked (.828). Likewise, risk of being threatened or attacked with a weapon is high (.642), as is risk of being stalked (.478). Combined with the comparatively high risk of sexual assault (.244), this pattern of violence involves physical violence combined with sexual violence and controlling behavior. Characterizing just over 3 percent of the sample (.033), this pattern typifies *systematic abuse* that has been the focus of considerable public policy and criminal justice attention.

Table 3. Latent class and conditional probabilities: Parent and partner victimization, NVAWS, 1995.

Violence Type	Parent			Partner			
	I	II	III	I	II	III	IV
Throw/Hit	0.037	0.562	0.911	0.002	0.216	0.432	1.000
Push	0.012	0.510	0.984	0.009	0.715	0.969	0.993
Pull hair	0.016	0.298	0.892	0.007	0.101	0.598	0.975
Slapped	0.156	0.883	0.978	0.006	0.494	0.981	0.992
Kicked	0.004	0.026	0.482	0.001	0.016	0.318	0.828
Beaten/Choked	0.002	0.093	0.817	0.001	0.135	0.792	0.951
Weapon	0.002	0.034	0.349	0.001	0.115	0.250	0.642
Sexual Assault	NA	NA	NA	0.006	0.056	0.126	0.244
Stalking	NA	NA	NA	0.005	0.081	0.159	0.478
Latent Class Probability	0.754	0.199	0.047	0.813	0.082	0.071	0.033

The distinctions that we make both reflect and have implications for current discussions of the nature of spousal violence against women. In particular, they provide a behavioral basis for understanding qualitatively distinct types of violence offered in

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earlier work. The terminology that we use draws upon that offered in Macmillan and Gartner's analysis of data from a national sample of Canadian women and is informed by Johnson's distinction between "common couple violence" and "patriarchal terrorism." [22] While we do not know the specific context of the violence (i.e., disagreement, argument, family conflict, personal stress, power/control), the behavioral distinctions that we observe are both consistent with and extend earlier work. For example, "interpersonal conflict violence," the most commonly experienced form of violence, is by virtue of the low probabilities sporadic and isolated. There simply is not enough violence reported to suggest that violence is frequent or systematic. This is generally consistent with "common couple violence" described in Johnson's earlier work. Common couple violence has a "dynamic…in which conflict occasionally gets 'out of hand,' leading usually to 'minor' forms of violence…"[23] At the same time, the pattern of "physical abuse" is not particularly consistent with Johnson's concept of "patriarchal terrorism." The latter is violence that is "a product of patriarchal traditions of men's right to control 'their' women."[24] This is most consistent with the pattern of "systematic abuse" that we observe. Importantly, systematic abuse is violence that extends well beyond traditional notions of physical abuse and includes comparatively high risk of both stalking and sexual victimization. In combination, stalking, physical and sexual victimization suggest a pattern of behavior that echoes efforts to control the social and sexual activities of female partners. In contrast, the pattern of "physical abuse" that we observe may simply reflect exposure to higher rate offenders who either possess norms and values that support the use of violence as a conflict tactic or lack personal and social controls.[25] Regardless, the recognition of such distinct forms of violence is a fundamental first step

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in unraveling the etiology of spousal violence against women. It also provides a foundation for the identification of risk factors, and provides a basis for considering the variable consequences of spousal victimization for life chances in a wide variety of areas. Equally important, it provides a starting point for examination of broader patterns of victimization across relationships and across the life span.

VI. Patterns of Violence across Relationships and the Life Course

The NVAWS sample is characterized by three distinct patterns of violence across relationships and across the life course. A first involves some, but generally low, risk of victimization in all relationships. We characterize this pattern as isolated violence. A second involves generally greater risk, particularly from parents and partners, but little likelihood of abusive violence within these relationships. We characterize this pattern as parent-partner violence. A third involves even greater risk. This includes abusive violence from both parents and partners, coupled with violence in multiple social relationships. We characterize this pattern as multifaceted-multirelationship violence.

To examine the issue of whether there are distinct patterns of victimization across relationship and across the life course, we cross classify victimization risk across the six relationships and then perform a second latent class analysis.[26] Goodness of fit statistics are shown in Table 4. Importantly, a one class model provides a very poor fit to the data according to all criteria. This indicates that there are substantial patterns in violence across relationships. Moreover, a three class model provides a good fit to the data according to the likelihood ratio chi-square test (183.17, 162 *df*, $p > .10$) and the index of

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dissimilarity (.02). While a two class model has the lowest BIC statistic (-1275.52 versus –1240.78), this model has a poor fit to the data based on the likelihood ratio test (p < .001). We opt for a three class model on the grounds that it provides a good fit based on all criteria.[27] Substantively, this indicates that three distinct patterns of violence across relationships and the life course characterize the sample of American women.

Table 4. Goodness of Fit Statistics: Sociometry of victimization, NVAWS 1995.

Number of Classes	L^2	df	P-value	ID	BIC
I	1211.65	182.00	0.000	0.14	-388.09
II	245.11	173.00	0.000	0.03	-1275.52
III	183.17	162.00	0.122	0.02	-1240.78
IV	153.53	154.00	0.496	0.02	-1200.10
IV-Fixed	182.71	161.00	0.116	0.03	-1232.44

Table 5 shows conditional and latent class probabilities for the three class model and reveals nature and extent of these specific patterns of risk. A first class involves generally low risk of violence in any relationship. There is a small likelihood of physical punishment violence in childhood (.066) but virtually no risk of abuse (.001). This is combined with very little risk of violence from relatives (.010), from dates (.029), from acquaintances (.028), or from strangers (.031). While comparatively low, this is combined with a small likelihood of experiencing interpersonal conflict violence (.064), but little likelihood of the more serious and multifaceted types of partner violence (.040 and .013 for physical and systematic abuse, respectively). This pattern of violence characterizes the majority of the sample, almost three quarters (.746). We characterize

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this pattern of violence as *isolated violence*.

A second pattern of violence involves a high likelihood of physical aggression in childhood (.687), but again little likelihood of abuse (.052). This however is combined with considerably higher risk of violence from relatives (.101), dates (.093), acquaintances (.140), and strangers (.109). While these probabilities are still not objectively high, they do indicate increased exposure to violence. Importantly, elevated risk of violence in these relationships is combined with greater probabilities of partner violence. In particular, there is moderate risk of interpersonal conflict violence (.222) or physical abuse (.142). Still, risk of systematic abuse is low (.069). In general, this pattern of risk does not suggest multifaceted risk of victimization across relationships or the life span. While there is clearly patterned risk in this class, the generally low probabilities characterizing each given relationship indicate that women's experiences of violence are largely confined to a given relationship. This pattern characterizes almost 20 % of the sample (.193). We define this pattern of victimization as *parent-partner violence*.

A third class or pattern characterizes 6 percent of the sample and involves multifaceted violence that stretches across relationships and across the life span. This pattern of violence involves high risk of violence in childhood, particularly abusive violence (.507). This is coupled with moderate risk from relatives (.292) and risk of violence from dates (.100), acquaintances (.196), and strangers (.145) that is as large and typically larger than that seen in the previous class. This pattern of violence also involves greater risk of more serious partner violence, particularly systematic abuse (.255). In general, this suggests a pattern of violence that involves elevated risk and is characterized

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by violence in multiple relationships. We define this pattern of victimization as *multifaceted-multirelationship violence*.

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Table 5. Latent class and conditional probabilities: Sociometric Analysis, NVAWS, 1995.

Relationship			**I**	**II**	**III**
Parent	**I**	None	0.934	0.261	0.374
	II	Physical aggression	0.066	0.687	0.119
	III	Abuse	0.001	0.052	0.507
Relative	**I**	No	0.990	0.899	0.708
	II	Yes	0.010	0.101	0.292
Date	**I**	No	0.971	0.907	0.900
	II	Yes	0.029	0.093	0.100
Acquaintance	**I**	No	0.972	0.860	0.804
	II	Yes	0.028	0.140	0.196
Stranger	**I**	No	0.968	0.891	0.855
	II	Yes	0.031	0.109	0.145
Partner	**I**	None	0.883	0.567	0.426
	II	IPCV	0.064	0.222	0.140
	III	Physical Abuse	0.040	0.142	0.179
	IV	Systematic Abuse	0.013	0.069	0.255
Latent Class Probability			0.746	0.193	0.061

VII. Risk Factors

Age, race, low socioeconomic status, including unemployment, low educational attainment, low personal and household income, and poverty, and marital disruption are all significantly associated with increased risk of violence. Multifaceted, multirelationship violence has a particularly strong association with low socioeconomic status and marital disruption.

Previous research on specific types of violence (i.e., sexual assault) and violence within specific relationships (i.e., partner violence, child abuse) indicate a number of

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important risk factors. Such research has not, however, examined such risk factors in the context of patterned violence across relationships and the life span. We do so in the following section with respect to *age*, *race*, *Hispanic ethnicity*, *employment status*, *educational attainment*, *personal income*, *household income*, *poverty*, *marital status*, and *parenthood*. A full description of these is provided in Appendix B.

Our objective here is simply to document factors that are associated with different patterns of risk. We cannot definitively conclude that such factors are causes of violence as there are two complicating issues. First, our descriptions of victimization experiences span multiple years and some violent incidents may have occurred before, even long before, our risk factors are measured. Second, it is very likely that several of these factors may be influenced by victimization experiences. Victimization and its consequences is likely to have profound effects on attainments and social relationships over the life span[28] and hence may actually shape the risk factors that we consider. Nonetheless, it is important to identify factors that are associated with the different types of risk we have identified. In all of the following analyses, we make comparisons against those in the sample that report no victimization experiences in any of the six relationships. Frequencies denoting different exposure to patterned violence and corresponding chi-square statistics are shown in Table 6.[29]

Beginning with age, there is significant variation across cohorts in terms of the patterns of violence they experience. [30] In general, younger cohorts have considerably greater risk of violence, particularly multifaceted, multirelationship violence across relationships. In terms of isolated violence, risk appears to increase from the youngest cohort (32 %) through the middle age cohorts (40-45 %) before declining sharply among

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Table 6. Sociodemographic Correlates of Victimization: NVAWS, 1995.

	Pattern of Victimization				
	None	I	II	III	X^2 / F-value
Age					360.6***
18-20	56.9	32.3	3.1	7.7	
21-25	51.2	41.6	1.9	5.2	
26-35	48.7	44.8	3.0	3.5	
36-45	51.7	41.7	3.2	3.4	
46-55	55.4	40.3	2.2	2.2	
56-65	65.9	30.0	1.9	2.3	
Over 65	82.9	15.9	0.7	0.6	
Race					57.5***
White	58.9	36.2	2.4	2.6	
Black	56.6	40.8	0.6	2.0	
Asian	64.1	28.3	4.4	3.3	
American Indian	37.7	52.2	4.4	5.8	
Mixed	52.2	36.9	3.5	7.4	
Hispanic					10.6*
No	58.2	36.9	2.2	2.7	
Yes	56.6	35.2	4.1	4.1	
Emploment Status					301.2***
Full-Time	52.7	42.1	2.4	2.8	
Part-Time	56.5	37.8	2.3	3.5	
Military	50.0	45.0	5.0	0.0	
Unemployed	44.2	45.2	3.7	6.9	
Retired	78.4	19.3	1.2	1.1	
Student	40.4	50.7	4.1	4.8	
Homemaker	62.2	33.0	2.1	2.7	
Other	42.6	46.7	6.7	4.1	
Education					74.9***
None	57.6	37.4	1.5	3.6	
< 8th Grade	59.0	37.2	1.2	2.6	
Some Highschool	51.8	42.1	2.7	3.4	
Highschool	60.9	34.2	2.6	2.3	
Some college	60.0	33.1	3.8	3.0	
College graduate	71.5	25.2	0.9	2.3	
Postgraduate	77.8	22.2	0.0	0.0	

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Table 6 (cont'd). Sociodemographic Correlates of Victimization: NVAWS, 1995.

	Pattern of Victimization				
	None	I	II	III	X^2 / F-value
Personal Income					180.3***
Less than $5000	54.7	38.3	2.4	4.6	
$5000-15000	53.5	40.2	3.0	3.3	
$15000-25000	53.3	40.7	2.6	3.4	
$25000-35000	53.7	41.2	1.9	3.3	
$35000-50000	52.6	42.0	2.5	3.0	
$50000-80000	54.1	39.4	3.8	2.7	
More than $80000	52.2	42.5	1.8	3.5	
Missing	71.2	26.3	1.7	0.9	
Household Income					166.7***
Less than $5000	58.4	33.1	4.2	4.2	
$5000-15000	54.7	38.6	2.9	3.8	
$15000-25000	52.3	40.6	3.0	4.1	
$25000-35000	55.3	39.1	2.2	3.4	
$35000-50000	53.2	41.3	2.7	2.8	
$50000-80000	55.1	39.9	1.9	3.2	
More than $80000	54.2	41.9	2.3	1.6	
Missing	71.6	26.0	1.4	1.0	
Phone Service					63.0***
No	38.1	47.3	6.0	8.7	
Yes	58.8	36.4	2.2	2.6	
Marital Status					443.8***
Married	61.8	33.8	2.1	2.4	
Common-Law	34.4	56.3	3.1	6.3	
Divorced	33.8	57.5	3.4	5.4	
Separated	25.9	62.9	5.3	5.9	
Widowed	78.2	19.3	1.9	0.6	
Never married	39.8	51.3	4.0	4.9	
Parent					
No	57.4	38.4	1.3	2.9	7.4*ns*
Yes	58.1	36.5	2.6	2.8	

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those over the age of 55 (30 % and 16 %, respectively). In contrast, risk of parent-partner violence is relatively steady through the middle aged cohorts (typically around 3%) before also declining among the oldest cohorts. Declining risk among older cohorts is even more significant with respect to multifaceted, multirelationship violence. While 7.7 percent of the youngest cohort (ages 18-20) report the latter, only 3.4 percent of women 36-45 and only 0.6 percent of women over the age of 65 have similar risk.

There are also significant race differences in patterned victimization. Black and white women report similar patterns of victimization. In contrast, American Indian and those who self identify as "mixed" have significant higher rates of parent-partner (4.4% and 3.5%, respectively) and multifaceted-multirelationship (5.8% and 7.4%, respectively) violence. In general, Asian-American women report the lowest rates of violence. Hispanic women also have somewhat higher risk of violence, particularly parent-partner violence (4.1% versus 2.2%) and multifaceted-multirelationship violence (4.1% versus 2.7%).

There is also significant variation in risk based on employment status.[31] First, risk is generally lowest among those who are retired (78 % report no violence) and those who are homemakers (62.2 % report no violence). Second, risk of isolated violence is generally similar across employment types (with the exception of those retired and homemakers). Third, risk of parent-partner violence is greatest among those who report "other" as their employment status.[32] Fourth, risk of multifaceted-multirelationship violence is greatest among those who are unemployed (6.9 %) and generally low among those who are employed full-time (2.8 %) or in the military (0.0 %). Combined with the comparatively low percentage of unemployed women that report no violence (44.2 %),

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this may reflect the effect of economic disadvantage on risk of violence.[33]

A link between low socioeconomic status and risk of violence is also seen with educational attainment. In general, college graduates have the lowest risk of victimization. Almost three-quarters (71.5 % and 77.8 %, for college graduates and postgraduates, respectively) report no victimization. Women with generally low educational attainment, specifically less than high school, have comparatively higher risk of both isolated and multifaceted-multirelationship violence. For example, 3.6 percent of women with no formal education and 3.4 percent of women with some high school experienced multifaceted-multirelationship violence, while only 2.3 percent and 0 percent of college graduates and those with postgraduate degrees experienced similar violence.

Further evidence of the relationship of economic disadvantage to patterned violence is seen with personal and household income. In both cases, women who earn less than 5000 dollars or live in household with less than 5000 dollars total income are least likely to report not experiencing any violence (54.7 and 58.4 %, respectively) and most likely to experience multifaceted-multirelationship violence (4.6 and 4.2 %, respectively). Income differences in risk of isolated and parent-partner violence are less clear.[34] As a final issue on the link between economic status and victimization risk, we examine whether being poor, defined by a proxy variable of whether the respondent was ever without phone service in the prior year, is associated with exposure to violence.[35] Such women were much less likely to not experience any violence (38.1 versus 58.8 percent) and had significantly greater rates of all patterns of violence. They were almost 10 percent more likely to experience isolated violence (47.3 versus 36.4 percent), two and a half times more likely to experience parent-partner violence (6.0 versus 2.2 percent),

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and over three times as likely to experience multifaceted-multirelationship violence (8.7 versus 2.6 percent). In sum, these findings indicate strong links between economic disadvantage and women's risk of severe, multifaceted violence.

A final issue we consider is the relationship between violence and family structure. Beginning with marital status, there is a very strong association. Specifically, currently married and widowed women are most likely experience no violence (61.8 and 78.2 %, respectively). At the same time, women in common-law relationships or who are separated or divorced have comparatively higher risk of isolated and multifaceted-multirelationship violence. Women who are separated also have greatest risk of parent-partner violence (5.4 %). There are no significant associations between violence and the likelihood of having children.

VIII. Consequences of Victimization

Victimization also has significant associations with a wide range of things that are often regarded as consequences of victimization – e.g., perceptions of safety and psychological distress. While again we cannot definitively assess causal order, there is a large research literature that links each of these factors with violent victimization and exposure to violence more generally.[36] Full descriptions of each individual item considered are also found in Appendix B. For the purposes of clarity, we divide our assessment into four groups: perceptions of safety, psychological and physical health, substance use, and post-victimization behavior. We consider each of these in turn.[37]

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A. Perceptions of Safety

Violent victimization is associated with substantially lower perceived safety. Victimization is associated with views that sexual assault and harassment have become worse problems in recent years, greater concern about personal safety, greater concern about stalking, and a greater likelihood of carry a weapon or other protective item. This is particularly the case for multifaceted-multirelationship violence.

Table 7 shows frequency distributions of various measures of perceptions of safety and patterns of victimization and their corresponding chi-square measure of association. Beginning with general perceptions of crime trends, there is no significant association. Victims of violence are no more likely to feel that crime has gotten worse in recent years. There is also no association with respect to perceptions of violent crime.

There are however significant associations with five other perception of safety measures. First, victimization of any type increases the likelihood of perceiving sexual harassment as a worsening problem. Second, multifaceted-multirelationship violence is associated with perceiving sexual assault as a worsening problem. Those experiencing other patterns of victimization are not substantively different from those experiencing no violence. Third, each pattern of violence is associated with greater concern about personal safety. With respect to general safety, while 26.9 percent of non-victims feel very concerned about their safety, 30.3 percent of victims of isolated violence, 34.6 percent of victims of parent-partner violence, and 41.5 percent of victims of multifaceted-multirelationship violence feel very concerned. With respect to concern over stalking, 12.7 percent of non-victims report feeling very concerned, while 15.6 percent, 26.0 percent, and 23.5 percent of isolated, parent-partner, and multifaceted-multirelationship

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violence feel very concerned. Finally, victims of violence, particularly victims of multifaceted, patterned violence, are more likely to carry a weapon or some other protective device. While just over a quarter (26.5%) of non-victims carry a weapon, almost 40 percent of those experiencing isolated and parent-partner violence (37.1 and 38.7, respectively), and almost half (47%) of women experiencing multifaceted-multirelationship violence carry a weapon.

Table 7. Victimization and Perceptions of Violence and Safety, NVAWS 1995.

	Pattern of Victimization				
	None	I	II	III	X^2
Trends in crime					12.2*ns*
Improved	23.6	21.2	29.0	19.6	
Same	17.5	18.8	11.8	19.0	
Worse	58.9	60.1	59.2	61.5	
Problem: Violent Crime					
Less	0.9	0.8	2.6	0.6	8.4*ns*
Same	9.2	9.2	7.1	12.1	
Worse	89.9	90.0	90.3	87.4	
Problem: Sexual Harassment					50.9***
Less	54.1	48.6	49.3	47.8	
Same	35.5	35.1	32.9	36.8	
Worse	10.4	16.2	17.8	15.4	
Problem: Sexual Assault					18.3***
Less	80.8	77.6	80.5	72.0	
Same	17.9	20.9	18.8	24.7	
Worse	1.3	1.5	0.7	3.3	
Personal Safety					59.6***
Not concerned	22.3	16.9	14.4	14.8	
A little concerned	20.3	18.0	19.6	14.2	
Somewhat concerned	30.6	34.7	31.4	29.5	
Very concerned	26.9	30.3	34.6	41.5	
Concern/Stalking					101.8***
Not concerned	54.2	46.6	37.0	32.2	
A little concerned	19.3	19.7	18.2	18.0	
Somewhat concerned	13.7	18.1	18.8	26.2	
Very concerned	12.7	15.6	26.0	23.5	
Carry Weapon					102.4***
No	73.5	62.9	61.3	53.0	
Yes	26.5	37.1	38.7	47.0	

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B. Psychological and Physical Health

Victimization has broad ranging effects on psychological and physical health. It is associated with higher rates of depression, greater risk of post-victimization PTSD, greater psychological disability, lower self-perceived health, greater physical disability, and greater likelihood of having experienced a miscarriage. Multifaceted-multirelationship violence appears particularly detrimental for depression, having a mental health disability, self-perceived health, and risk of miscarriage.

Table 8 shows means and frequencies, as well as corresponding F-values and chi-square measures of association, for several measures of psychological and physical health. First, rates of depression are higher among victims of violence. While non-victims have average scores of 15.0 on the depression index, women experiencing isolated violence have scores of 16.2 and those experiencing parent-partner and multifaceted-multirelationship violence have scores of 18.1 and 18.3, respectively. Consistent with this, parent-partner and multifaceted-multirelationship victimization is associated with higher rates of post-victimization PTSD. That this effect is significant attests to the magnitude of the effect as this sample is restricted to a small number of women, those who reported a violent incident with their current partner. We consider also psychological distress of a more extreme form by examining variation in the likelihood of suffering from a mental health disability. Here, the victimization effects are profound. Less than one percent of non-victims have their daily activities limited by mental health problems. Three times as many victims of isolated violence, almost eight times as many victims of parent-partner violence, and *over thirteen times* as many victims

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of multifaceted-multirelationship violence have a similar disability.

There are equally pronounced effects on physical health. First, victims of violence in general have significantly lower general perceptions of health. While less than three percent of non-victims feel that their health is poor, this rises to 3.5 percent for isolated violence, 5.2 percent for parent-partner violence, and 6.0 percent among women experiencing multifaceted-multirelationship violence. This latter pattern of violence *doubles* the likelihood of perceiving health to be poor when compared with those experiencing no violence. Consistent with this, victims of violence are much more likely to report that their activities are limited by a physical disability. When compared to those that experience no violence, isolated violence doubles the likelihood and both parent-partner and multifaceted-multirelationship violence more than *triple* the likelihood of having a physical disability. Also consistent, victims of violence are more likely to report having a miscarriage. In comparison to non-victims (22.9 %), over a quarter of those experiencing isolated violence (28.9 %) and over a third of those experiencing parent-partner violence (38.3 %) report having a miscarriage. This effect is even more pronounced among those experiencing multifaceted-multirelationship violence. Here, almost *half* of women (45.9 %) are likely to have had a miscarriage. Equally important, victimization has no significant association with the likelihood of having a disability due to chronic illness. This reduces the possibility that the associations we observe reflect increased vulnerability to violence due to poor health or general disability. Instead, violence, particularly multifaceted-multirelationship violence, would appear to have broad ranging negative effects on psychological and physical well-being.

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Table 8. Victimization and Psychological and Physical Health, NVAWS, 1995.

	Pattern of Victimization				X^2 / F-value
	None	I	II	III	
Mean Depression	15.0	16.2	18.1	18.3	87.6***
Mean PTSD	2.5	3.1	4.9	3.9	9.9***
Disability: Mental health					134.4***
No	99.1	97.3	92.3	88.5	
Yes	0.9	2.7	7.7	11.5	
Self-Perceived Health					43.4***
Poor	2.9	3.5	5.2	6.0	
Fair	9.6	10.6	16.8	15.3	
Good	26.5	25.9	31.6	33.8	
Very good	31.4	32.7	25.8	25.7	
Excellent	29.7	27.3	20.7	19.1	
Disability: Physical					95.8***
No	95.1	89.8	83.8	84.7	
Yes	4.9	10.2	16.2	15.3	
Disability: Illness					3.23*ns*
No	84.7	86.1	84.5	82.5	
Yes	15.3	13.9	15.5	17.5	
Misscarriage					77.9***
No	77.1	71.1	61.7	54.1	
Yes	22.9	28.9	38.3	45.9	

C. Alcohol and Drug Use

Violent victimization is associated with heightened alcohol consumption and several forms of drug use. The latter include tranquilizers, amphetamines, anti-depressants, painkillers, marijuana, hard drugs (e.g., cocaine, heroin), as well as polydrug use. Multifaceted-multirelationship violence does not appear to have uniquely detrimental consequences, except in the case of amphetamine and marijuana use. Instead, both parent-partner and multifaceted-multirelationship violence both show significantly higher substance use.

Table 9 shows the relationship between several types of substance use and

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patterns of victimization. Victimization in general increases rates of alcohol consumption with very little difference across victimization types. In contrast, drug use shows a more varied pattern with variation across both drug type and victimization type. For example, the use of tranquilizers is higher among all three victimization groups in comparison to the non-victim group, and it is much higher, but substantively similar, among victims of parent-partner and victims of multifaceted-multirelationship violence. A similar pattern is observed with respect to the use of antidepressants, painkillers, hard drugs, and polydrug use. In contrast, amphetamine use is generally similar among non-victims and victims of both isolated violence and parent-partner violence, but is between *5 and 10 times* greater among women experiencing multifaceted-multirelationship violence. Marijuana use is also highest among this group of victims (5.5 %), a rate of use that is almost *14 times* greater than that of non-victims (0.4 %). Marijuana use is also higher among the other victimization classes. Compared to non-victims, victims of isolated violence are almost 4 times more likely to use marijuana (1.5 %), while victims of parent-partner violence are *eight times* more likely to use marijuana (3.2 %). Thus, victimization, in general, is associated with greater alcohol and drug use.

D. Post-victimization Behavior

In the case of physical assault, patterned victimization is associated with a greater likelihood of having sought medical or psychological care, having someone contact the police, feeling dissatisfied with the police response. In the case of sexual assault, patterned violence increases the likelihood of seeking psychological care, feeling dissatisfied with the police response, and decreases the likelihood of speaking

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about the incident to someone.

Table 9. Victimization and Substance Use, NVAWS, 1995.

	Pattern of Victimization				
	None	I	II	III	X^2 / F-value
Average Alcohol Consumption	0.5	0.8	1.0	0.8	33.1***
Drug Use: Tranquilizers					169.4***
No	95.4	92.8	82.5	82.5	
Yes	4.6	7.2	17.5	17.5	
Drug Use: Amphetamines					23.5***
No	99.8	99.6	100.0	97.8	
Yes	0.2	0.4	0.0	2.2	
Drug Use: Anti-depressants					127.0***
No	96.8	93.6	83.2	84.0	
Yes	3.2	6.4	16.8	16.0	
Drug Use: Painkillers					81.4***
No	90.5	86.5	74.2	76.0	
Yes	9.5	13.5	25.8	24.0	
Drug Use: Marijuana					
No	99.6	98.5	96.8	94.5	66.5***
Yes	0.4	1.5	3.2	5.5	
Drug Use: Hard Drugs					
No	100.0	99.9	99.4	99.5	24.0***
Yes	0.0	0.1	0.6	0.5	
Poly Drug Use					115.7***
None	95.4	92.8	82.5	82.0	
1 to 2	4.6	7.2	16.9	18.0	
3 or more	0.0	0.1	0.7	0.0	

Table 10 shows the associations between patterns of victimization and various forms of post-victimization behavior. Specifically, we examine whether broader patterns of victimization that span both relationships and time are associated with different actions that followed from the respondent's *most recent* physical and sexual assault. We focus

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on four issues: seeking care, taking time off work, police contact and satisfaction, and whether the victim spoke of the incident to others. As these analyses require a physical or sexual assault, the sample is restricted to those who reported some victimization in adulthood and comparisons are made across victimization classes.

Beginning with seeking care, there are significant differences across victimization groups with respect to physical assault. Specifically, victims of parent-partner violence are twice as likely to seek medical care as victims of isolated violence (19.6 % versus 9.8 %). At the same, victims of multifaceted-multirelationship violence are *not more likely* to have sought medical care than victims of isolated violence. Associations for sexual assault are not statistically significant, although the overall pattern is similar to that of physical assault. When focusing on psychological care, victims of both parent-partner and multifaceted-multirelationship violence are more likely to seek care after a physical assault (33.3 and 31.2 versus 20.7), although the differences between them are negligible. In the case of sexual assault, victims of multifaceted-multirelationship violence are considerably more likely to seek psychological care (48.2 versus 34.0 and 26.8).

Multifaceted-multirelationship violence is also associated with significantly less likelihood of having physical assaults reported to the police (15.7 % versus 33.3 and 28.2 %). For sexual assault, effects are not statistically significant. Findings for personally reporting either type of incident are also not significant. For those incidents that were reported to the police, patterned victimization is associated with significantly *lower* police satisfaction. For physical assaults, only 1 in 5 victims of isolated violence were very dissatisfied with the police respondent, while *almost half* (47.1 %) of victims of multifaceted-multirelationship violence reported similar dissatisfaction. For sexual

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assaults, just over one-quarter of victims of isolated violence (26.5 %) were very dissatisfied, while almost 40 percent of victims of multifaceted-multipartner violence felt similarly.

For physical assault, there are no significant differences with respect to taking time off work or telling others about the incident. Approximately 20 percent of victims report taking time off work, while 60 % reported speaking to others about the incident. For sexual assault, there were also no significant differences with respect to taking time off work. There were, however, differences with respect to telling others. In this case, victims of both parent-partner and multifaceted-multirelationship violence were *more likely* to report telling others about the incident (75.7 and 75.0 versus 64.2 %). In general, post-victimization behavior shows less association with the broader patterns of violence across relationships and the life span. Still, there are significant and consistent results, notably seeking psychological help and police satisfaction, which may have important long-term consequences.

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Table 10. Victimization and Post-Violence Behavior, NVAWS, 1995.

	Pattern of Victimization			
	I	II	III	X^2
Sexual Assault				
Sought Medical Care				2.60*ns*
No	92.6	86.8	93.6	
Yes	7.4	13.2	6.3	
Sought Psychological Care				20.5***
No	73.2	66.0	51.8	
Yes	26.8	34.0	48.2	
Took time off work				1.6*ns*
No	88.9	84.9	85.5	
Yes	11.1	15.1	14.6	
Police Contacted / Any				3.5*ns*
No	85.4	84.9	78.3	
Yes	14.6	15.1	21.7	
Police Contacted / Victim				0.7*ns*
No	91.5	90.6	89.2	
Yes	8.5	9.4	10.8	
Police Satisfaction				
Very dissatisfied	26.5	12.5	39.1	11.7*
Dissatisfied	10.8	12.5	30.4	
Satisfied	34.9	25.0	13.0	
Very satisfied	27.7	50.0	17.4	
Told others				
No	35.8	25.0	24.3	7.34**
Yes	64.2	75.0	75.7	

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Table 10 (cont'd). Victimization and Post-Violence Behavior, NVAWS, 1995.

	Pattern of Victimization			
	I	II	III	X^2
Physical Assault				
Sought Medical Care				5.8**
No	90.2	80.4	87.3	
Yes	9.8	19.6	12.7	
Sought Psychological Care				10.5***
No	79.3	66.7	68.8	
Yes	20.7	33.3	31.2	
Took time off work				3.5*ns*
No	86.7	80.4	81.7	
Yes	13.3	19.6	18.4	
Police Contacted / Any				8.7**
No	71.8	66.7	84.3	
Yes	28.2	33.3	15.7	
Police Contacted / Victim				2.6*ns*
No	79.9	82.4	86.1	
Yes	20.1	17.7	13.9	
Police Satisfaction				
Very dissatisfied	18.4	29.4	47.1	13.9**
Dissatisfied	15.5	29.4	11.8	
Satisfied	39.0	23.5	35.3	
Very satisfied	27.1	17.7	5.9	
Told others				
No	40.6	39.2	40.4	.04*ns*
Yes	59.4	60.8	59.6	

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IX. General Implications

There are three general implications of our findings. First, they highlight the diversity of violence against women. While the majority of women are not victimized, those that are have very different experiences. For some, violence is somewhat discrete and isolated. For others, violence tends to be multifaceted, but largely confined to family relationships. For still others, violence is multifaceted and occurs in a variety of relationships, both within and beyond the family. This diversity points to the necessity of expanding our conceptualization of women's experiences with violence away from discrete forms of violence or violence in discrete relationships.

Second, our findings highlight the need to know more about the factors that produce variation in the types of victimization that women experience across the life span. While our work highlights the importance of early victimization in creating cumulative patterns of victimization through later life, they do not explain *how* early victimization produces patterned victimization over the life span. At the same time, we highlight the importance of socioeconomic deprivation as a major risk factor but do not know why it is important. It may be that poverty and low incomes embed individuals in neighborhood and network contexts that are characterized by greater violence. It may also be that low economic resources prevent women from leaving abusive relationships or limit the choice set in selecting new partners. It may also be that low income coupled with fragile interpersonal relationships may create economic imperatives that embed women in crime and deviance, thus increasing their risk of victimization in multiple contexts. While our analysis of risk factors informs our understanding of risk for violence across relationships and the life course, a next stage of research would move

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beyond our largely descriptive analyses to start to identify the mechanisms that produce patterned victimization over the life span.

Related, the NVAWS data, with all its advantages, does not contain a rich set of measures that would allow one to examine such issues in detail. As a result, our work highlights the need for further data collection that would allow us to understand personal, social, and ecological factors that both produce and inhibit the different patterns of violence that we identify. Such data should also focus on factors in later life that may produce "turning points" in a violent life course, either increasing risk of violence or shielding women from the violence they have previously experienced.

Finally, our research highlights the myriad costs of violence across a wide number of domains. Yet, it does so while also highlighting variation in consequences that accompany variation in experiences. While victims of violence suffer in numerous ways, including perceived safety, health, and substance use, their experiences are not uniform. In particular, multifaceted-multirelationship violence appears to be most detrimental to quality of life. Recognizing such variation is important for both developing a better understanding of the costs of criminal violence and developing effective responses.

X. Policy Implications

Our findings have implications for public policies in a number of ways. Most generally, the variation in victimization experiences that we identify suggests the need to tailor interventions so that they can be more readily implemented in the context of on-going relationships. This would ultimately involve victim services being less uniform and more adaptable to patterned victimization. For example, the criminal justice system

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may be uniquely beneficial in dealing with isolated violence. In this case, criminal justice sanctions can target a specific offender or offenders. In other cases, notably parent-partner violence, providing assistance, particularly through financial help, may greatly improve women's ability to leave abusive situations. At the same time, women who experience multifaceted-multirelationship violence may benefit more from counseling and general relocation assistance. Consideration of effective response begins with the recognition of variation in victimization type.

Also related, the extensive comorbidity of violence, fear, psychological distress, health problems, and substance use may suggest the need for more coordinated services. In this respect, there may be substantial benefits from combining victim services with medical assistance, counseling, and substance abuse assistance to more effectively deal with the myriad consequences of criminal violence.

Following from this, diversity in women's experiences with violence have important resource implications. In general, such diversity suggests the importance of broad based funding of victim-services beyond those situated within the criminal justice system. While criminal justice-based advocates and victim-witness liaisons will continue to be important, other services that provide education, job training, jobs, childcare, affordable housing, affordable health care, and relocation support may be uniquely beneficial in assisting women in escaping violent relationships and violent circumstances. In the end, greater inter-agency cooperation that links criminal justice, social service, and health service organizations may be key to providing greater options that can be tailored to specific patterns of risk across relationships and the life span.

Related, those who deal with victims of violence most immediately might

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consider the use of diagnostic instruments, similar to those used in medical screening, to identify the broader pattern of violence that may not be conveyed through current practices. This would facilitate the collection of information that would allow law enforcement and practitioners to understand both the broader biography of violence and the likely variation in consequences that we have simultaneously identified. The benefit of such practices is the ability to more deeply understand the types of risk that individual victims encounter and to anticipate the types of collateral problems, social and health related, that would warrant intervention. Again, this would provide a foundation for tailoring victimization services to individual victims. Against such benefits are potential problems of confidentiality and safety. In legal arenas, information gathered by law enforcement is typically available to defense attorneys. This creates the possibility that such information could be used against a victim in both criminal and civil (e.g., child custody) matters. Still, our earlier discussion emphasized the importance of victim-support outside the criminal justice system. Consistent with this, diagnostic screening could take place outside of the evidentiary inquiry that is associated with any typical case and be used more in the coordination of services.

Finally, the significance of abuse in family of origin in the general patterning of multifaceted-multirelationship violence suggests the importance of early intervention. In some cases, removing abused children from dangerous situations, increasing public awareness of the long-term consequences of such abuse, and providing extensive victim services to abused children may go along way towards limiting subsequent victimization in later life. Equally important is the necessity of identifying the co-occurrence of partner violence and child abuse in order to address both issues simultaneously. Ultimately, this

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may be pivotal in preventing the re-victimization of women and children and in identifying a key moment in the life span that may set the stage for repeat victimization that extends deep into the life course. That multifaceted violence of any sort is generally characterized by increased risk of violence from both parents and partners suggests the importance of targeted interventions in the family as a means of adequately responding to violence against women.

Appendix A. Analytic Technique

Our examination of patterns of victimization over time and across relationships uses latent class analysis. Latent class analysis attempts to account for the association between a set of manifest variables by specifying a latent construct that accounts for their association.[38] However, latent class analysis is distinct from the more traditional latent variable approaches, notably covariance structure or "LISREL" models, in that it makes possible the characterization of a multidimensional discrete latent variable from a cross-classification of two or more observed discrete variables. Most generally, this can be expressed as:

$$\pi_{ij...mt}^{AB...EX} = \pi_{it}^{\bar{A}X} \times \pi_{jt}^{\bar{B}X} \times ... \times \pi_{mt}^{\bar{E}X} \times \pi_{t}^{X},$$

where $\pi_{ij..mt}^{AB...EX}$ is the probability that a randomly selected case will be located in the i, j, m, t cell, $\pi_{it}^{\bar{A}X}$ is the conditional probability that a case in class t of the latent variable X will be located at level i of variable A, $\pi_{jt}^{\bar{B}X}$ is the conditional probability of being at level j of variable B, $\pi_{mt}^{\bar{E}X}$ is the conditional probability of being at level m of variable E, and π_{t}^{X} is the probability of a randomly selected case being at level t of the latent variable X.

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Importantly, these models are extremely flexible and can address various conceptualizations of the relationship between the manifest indicators, including associations in which elements are parts of a common system or complex, are functionally interdependent, or are effects of a common cause. A latent class approach produces a latent variable that defines the relevant classes of violence and the types of violence that characterize them. In practical terms, this allows us to assess and identify an empirical typology of violence that is characterized by the pattern of violent victimization that an individual respondent experiences. Furthermore, this approach allows assessment of the "scalability" of items and this permits examination of whether all forms of violence cohere in distinct patterns or whether distinct patterns exist for specific types of violence. This provides a lens for assessing the utility of prior practices of examining the causes and consequences of distinct types of female victimization.

Three sets of statistics guide our analyses. First, goodness of fit statistics indicate a) if a set of variables has any significant association; and b) the number of classes that are necessary to adequately represent the data. Our analyses include the likelihood ratio chi-square statistic (L2) and its corresponding degrees of freedom and p-value, the index of dissimilarity (ID), and the BIC statistic. A non-significant likelihood ratio chi-square statistic, an index of dissimilarity less than .05, and a large negative BIC statistic indicate a good fit to the data. In general, we look for consistency in fit across indictors. Second, conditional probabilities of experiencing specific types of violence indicate the general risk associated with particular classes. Such probabilities range from 0 to 1 with higher values indicating increased risk. Importantly, conditional probabilities apply to each type of violence examined and indicate cumulative risk. In other words, a particular class that

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has high probabilities on more than one type of violence indicate multifaceted risk. Finally, latent class probabilities associated with particular classes indicate the expected probability of the class in the sampled population. As such, they identify the expected frequency of a particular class of violence and identify the size of the population that could be expected to experience it. This indicated more or less common patterns of violence.

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Appendix B. Descriptions and Univariate Statistics.

Variable		Description	Mean	SD
Sociodemographics				
Respondent's Age		Age in years	46.29	15.47
Race		Respondents self-reported race		
	White	(1=White; 0=other)	0.75	
	Black	(1 = Black; 0 = other)	0.08	
	Asian	(1 = Asian; 0 = other)	0.01	
	American Indian	(1 = American Indian; 0 = other)	0.01	
	Mixed	(1 = Mixed; 0 = other)	0.05	
Ethnicity				
	Hispanic	Respondent's self-reported ethnicity (1 = Hispanic; 0 = other)	0.07	
Employment				
	Full-time	Employed full-time	0.46	
	Part-time	Employed part-time	0.13	
	Unemployed	Unemployed and looking for work	0.03	
	Student	In school	0.02	
	Other	Other (1 = Category; 0 = other)	0.36	
Education		Total Educational Attainment (From 1 = no schooling to 7 = postgraduate)	4.72	1.18
Personal income		Total personal income (From 1 = Less than $5000 to 10 = More than $100000)	4.27	2.33
Household income		Total household income (From 1 = Less than $5000 to 10 = More than $100000)	5.78	2.44
Poverty proxy		Lost telephone service in last 12 months (1=Yes; 0=No)	0.03	
Marital status		Respondent's marital status		
	Never Married	(1=Never Married; 0 = other)	0.14	
	Married	(1=Married; 0=other)	0.71	
	Separated	(1=Separated; 0=other)	0.03	
	Divorced	(1=Divorced; 0=other)	0.12	
Number of marriages		Total number of marriages (From 1 to 21)	0.48	0.83
Parent		Respondent has children (1=Yes; 0=No)	0.83	
Number of children		Respondent's number of children	2.13	1.61

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Appendix B (cont'd). Descriptions and Univariate Statistics (cont'd).

Variable	Description	Mean	SD
Perceptions of Saftey			
General trends	"Would you say that personal safety for women in this country has improved…, gotten worse…, or stayed about the same?" (From 1 = improved to 3 = gotten worse)	2.37	0.83
Violent crime	"Do you think violent crime is less of a problem, about the same more of a problem?" (From 1 = less of a problem to 3 = more of a problem)	1.10	0.34
Sexual harassment	"Do you think sexual harassment is less of a problem, about the sam more of a problem?" (From 1 = less of a problem to 3 = more of a problem)	1.61	0.70
Sexual assault	"Do you think sexual assault is less of a problem, about the same more of a problem?" (From 1 = less of a problem to 3 = more of a problem)	1.22	0.45
Personal safety	"How concerned are you about your personal safety?" (From 1 = not really concerned to 4 = very concerned)	2.70	1.09
Stalking safety	"How concerned are you personally about being stalked?" (From 1 = not really concerned to 4 = very concerned)	1.95	1.11
Defense	"Do you ever carry something with you to defend yourself or to alert other people?" (0 = No; 1 = Yes)	0.31	
Health and Well-being			
Self-perceived health	"In general, would you say your health is…? (From 1 = excellent to 5 = poor)	2.30	1.09
Disability: Physical	"Have you ever sustained a serious injury…that is disabling or interferes with your normal activities?" (0 = No; 1 = Yes)	0.08	
Disability: Illness	"Do you have a chronic disease or health condition that is disabling or interferes with your normal activities?" (0 = No; 1 = Yes)	0.15	
Disability: Psychological	"Do you have a chronic mental health disease or condition… disabling or interferes with your normal activities?" (0 = No; 1 = Yes)	0.02	
Miscarriage	"Have you ever had a miscarriage or stillbirth?" (0 = No; 1 = Yes)	0.26	0.44
Total Depression	Depression inventory based on the SF-36 Health Survey	15.67	4.29
PTSD	Post-traumatic stress disorder associated with recent occurrence of spousal violence	3.32	1.79
Substance use			
Alcohol consumption	"How many drinks did you average on the days you drank alcohol?" (From 0 to 20 or more)	0.64	1.25
Drug use: Tranquilizers	"In the past month, have you used tranquilizers, sleeping pills, or sedatives?" (0 = No; 1 = Yes)	0.07	
Drug use: Uppers	"In the past month, have you used uppers, speed, or amphetamines?" (0 = No; 1 = Yes)	0.00	
Drug use: Anti-depressants	"In the past month, have you used anti-depressants?" (0 = No; 1 = Yes)	0.05	
Drug use: Pain killers	"In the past month, have you used prescription pain killers?" (0 = No; 1 = Yes)	0.12	
Drug use: Marijuana	"In the past month, have you used marijuana?" (0 = No; 1 = Yes)	0.01	
Drug use: Hard drugs	"In the past month, have you used any other recreational drugs, such as crack, heroin, or angel dust?" (0 = No; 1 = Yes)	0.00	

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Endnotes

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[1] Kruttschnitt, Candace, with Gartner, Rosemary, and Ferraro, Kathleen, “Women’s involvement in serious interpersonal violence,” *Aggression and Violent Behavior* 7 (2002): 529-565.

[2] Crowell, Nancy, and Burgess, Ann, *Understanding Violence against Women*. Washington, DC: National Academy Press, 1996: 43.

[3] Malinowsky-Rummel, R. and Hansen, D, “Long-term consequences of child physical abuse." Psychological Bulletin 114 (1993): 68-79.

[4] Lauritsen, Janet, Laub, John, and Sampson, Robert, “The link between offending and victimization among adolescents,” *Criminology* 29 (1991): 265-291.

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[6] Hagan, John and McCarthy, Bill. *Mean Streets*. New York: Cambridge University Press, 1997.

[7] Follingstad, D., Bradley, R., Laughlin, J., and Burke, L., "Risk factors and correlates of dating violence: The relevance of examining frequency and severity levels in a college sample." *Violence and Victims* 14 (1999): 365-80; Kruttschnitt, Candace, with Gartner, Rosemary, and Ferraro, Kathleen, “Women’s involvement in serious interpersonal violence,” *Aggression and Violent Behavior* 7 (2002): 529-565; Testa, M. and Dermen, K., The differential correlates of sexual coercion and rape." *Journal of Interpersonal Violence* 14 (1999): 548-61.

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[9] General discussions and main findings for the NVAWS data are found in Tjaden, Patricia, and Thonennes, Nancy, *Prevalence, incidence, and consequences of violence against women: Findings from the National Violence against Women Survey*, Research in Brief, Washington, DC: U.S. Department of Justice, National Institute of Justice, November 1998, NCJ 172837; Tjaden, Patricia and Nancy Thonennes, Tjaden, P. and N. Thoennes. *Full Report of the Prevalence, Incidence and Consequences of Violence against Women*, Washington, DC: National Institute of Justice, November 2000, NCJ 183781.

[10] Johnson, Holly, *Dangerous Domains*. Toronto, CA: Nelson Canada, 1996.

[11] Crowell, Nancy, and Burgess, Ann, *Understanding Violence against Women*, Washington, DC: National Academy Press, 1996. Koss, Mary, “The underdetection of rape: Methodological choices influence incidence estimates,” *The Journal of Social Issues*, 48(1992): 61-75; Skogan, W. “The polls -- a review: The national crime survey redesign,” *Public Opinion Quarterly* 54 (1990): 256-72.

[12] Sexual assault is generally measured by the item “Has a man or boy ever made or tried to make you have sex by using force or threatening to harm you or someone close to you?” Variants in the survey included specific cues about vaginal sex, oral sex, and anal sex.

[13] Stalking victimization was measured with respect to being “followed or spied” on, being “sent unsolicited letters or written correspondences,” receiving “unsolicited calls,” having someone “stand outside your home or place of work or recreation,” having someone “show up at places you were even

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though he or she had no business being there," leaving "unwanted items for you to find," trying "to communicate with you against your will," or a variety of volunteered behaviors (e.g., vandalized property). Following prior work, we only included acts in which the respondent felt that they "or someone close to them would be seriously harmed or killed when [perpetrator] was following or harassing" them or when the respondent felt "somewhat frightened" or "very frightened."

[14] The one exception to this is that sexual assault involving relatives is comparatively greater than physical violence from relatives and sexual violence in other relationships.

[15] Respondents were not asked to report either stalking incidents or incidents of sexual assault in childhood that involved parents or guardians.

[16] Johnson, Michael, "Patriarchal terrorism and common couple violence: Two forms of violence against women," *Journal of Marriage and the Family* 57(1995): 283-94; Macmillan, Ross, and Gartner, Rosemary, "When she brings home the bacon: Labor force participation and risk of spousal violence against women," *Journal of Marriage and the Family* 61 (1999): 947-958.

[17] We assess the patterning of violence within relationships by examining goodness of fit statistics for models that predict one (functional independence between the different types of violence and no patterning), two, three, and four classes of violence. Models that provide a good fit to the data (discussed in Appendix A) suggest the optimal number of classes or patterns of violence.

[18] Dating violence is a borderline case. It provides a good fit to the data using a .01 and .05 criterion, but has BIC statistics that support a more complex model. We assess the nature of the more complex models and conducted robustness assessments (see note 4) and concluded that the one-class model was indeed the optimal model.

[19] In some cases, the BIC statistic suggested support for a more complex model. In each of these cases, we investigated the latent class and conditional probabilities associated with each class. Consistent with the problem of "over-fitting," each of the cases had latent class probabilities that were too small for reasonable estimation (less than .01) and had showed considerable distortion from the observed data. We further assessed whether a correction for empty cells, specifically the addition of small constants to all cells (i.e., 0.1, 0.25, 0.5, 0.75) changed the results. It did not.

[20] In this case, a four class model provides a slightly better fit by two of the three criteria and a poorer fit by the third. We selected the three class model on the grounds that the additional class was not clearly distinguishable from the third class and that its latent class probability was too small for adequate estimation (< 0.01).

[21] See discussions in Straus, Murray, "Discipline and deviance: Physical punishment of children and violence and other crime in adulthood," *Social Problems* 38(1991): 133-54; Kurz, Demi, "Corporal punishment and adult use of violence: A critique of 'Discipline and Deviance,'" *Social Problems* 38(1991): 155-**; McCord, Joan, "Questioning the value of punishment," *Social Problems* 38(1991): ***-79; Straus, Murray, "New theory and old canards about family violence research," *Social Problems*, 38(1991): 180-97.

[22] Macmillan, Ross, and Gartner, Rosemary, "When she brings home the bacon: Labor force participation and risk of spousal violence against women," *Journal of Marriage and the Family* 61 (1999): 947-958.

[23] Johnson, Michael, "Patriarchal terrorism and common couple violence: Two forms of violence against women," *Journal of Marriage and the Family* 57(1995): 285.

[24] Johnson, Michael, "Patriarchal terrorism and common couple violence: Two forms of violence against women," *Journal of Marriage and the Family* 57(1995): 284.

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[25] Heimer, Karen, "Socioeconomic status, subcultural definitions, and violent delinquency, *Social Forces* 75(1997): 799-833; Sampson, Robert and John Laub, *Crime in the Making*. Cambridge, MA: Harvard University Press, 1993; Gottfredson, Michael and Travis Hirschi, *A General Theory of Crime*. Stanford, CA: Stanford University Press, 1990; Hirschi, Travis, *Causes of Delinquency*. Berkeley, CA: University of California Press, 1969.

[26] Specifically, we cross classify the three patterns of child victimization with the four patterns of partner victimization, and the two categories of relative, date, acquaintance, and stranger victimization. For the latter relationships, we simply differentiate between victims and non-victims. This procedure yields a general *victimization matrix* composed of 192 cells.

[27] Like the earlier analyses, we assessed robustness by adding small constants to each cell in order to assess the degree to which model selection was being influenced by zero cells. These models confirmed our choice of selecting the three class model.

[28] Macmillan, Ross, "Violence and the life course," *Annual Review of Sociology* 27(2001): 1-22.

[29] Chi-square statistics provide a general measure of the association between two variables based on the degree to which the cell frequencies deviate from those that would be expected by chance alone (see discussion in Knoke, David, Bohrnstedt, George, and Mee, Alisa, *Statistics for Social Data Analysis*, Fourth Edition, Itasca, IL: F.E. Peacock Publishers, 2002.

[30] We interpret age variation in terms of cohorts on the grounds that our measures of victimization are based on *lifetime prevalence*.

[31] We assessed the robustness of all the following associations in multivariate models that controlled for age, age-squared, and race. In all cases, the pattern and statistical significance of results is similar to the bivariate associations presented in the text and tables.

[32] As there is not much information provided as to what "other" refers to, it is difficult to interpret the meaning of this association.

[33] Sampson, Robert, and Lauritsen, Janet, "Violent victimization and offending: Individual-, situational-, and community-level risk factors," In *Understanding and Preventing Violence, Volume 3, Social Influences*, eds. Albert Reiss and Jeffrey Roth, Washington, DC: National Research Council: 1-114.

[34] It is worth noting that respondents who did not report their personal or household income report the lowest exposure to violence. This is consistent the idea that those who fail to report income have higher incomes. Analysis of the relationship between employment, race, and educational attainment in the NVAWS data support this interpretation.

[35] We examined the degree to which race, employment, educational attainment, and income were associated with not having a telephone. In all cases, the associations were strong and in the expected direction (e.g., unemployed women were much more likely to report not having phone service in the prior year). This supports our contention that not having a telephone serves as a reasonable proxy for more extreme economic deprivation.

[36] See for example, Reiss, Albert and Roth, Jeffrey, *Understanding and Preventing Violence, Volume 4, Consequences and Control,* Washington, DC: National Research Council, 1993.

[37] While we report the bivariate associations in the tables and text, we assessed all effects in a multivariate model that controlled for age, race, employment status, education, being poor, marital status, and parenthood. With few exceptions, the results are similar to those discussed in the text. In the few cases where differences did appear, this appeared to reflect changes in statistical power rather than substantive change.

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[38] See discussions in Clogg, Clifford, "Latent Class Analysis." In *Handbook of Statistical Modeling for the Social and Behavioral sciences*, eds. Gerhart Arminger, Clifford Clogg and Michael Sobel, New York: Plenum Press, 1995 and McCutcheon, Allan, *Latent Class Analysis*. Newbury Park: Sage, 1987.

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