

Predicting the Psychosocial Effects of Interpersonal Partner Violence (IPV)

How Much Does a Woman's History of IPV Matter?

G. ANNE BOGAT
ALYTIA A. LEVENDOSKY
SALLY THERAN
ALEXANDER VON EYE
WILLIAM S. DAVIDSON
Michigan State University

Women's (N = 205) IPV experiences were assessed during their pregnancies, in the year before their pregnancies, and with their previous partners. The study explored whether psychosocial indicators and severity of violence could be predicted from a woman's continuity and history of IPV. Two 4-group classifications—partner (IPV experiences across partners) and time (history of IPV experiences)—and one 2-group classification (IPV or no IPV in the past 6 months) were compared. Both four-group classifications accounted for more variance than did the two-group. Within the four-group classifications, most of the significant differences on psychosocial outcomes and severity of IPV were between the no IPV and chronic IPV groups (IPV experiences with two partners and across three different time periods). However, the groups that also fared poorly were those who experienced recent IPV and continuity of IPV across time with their current partners.

Keywords: *domestic violence; partner violence; history of violence; chronic violence*

At present, there is no consensus among researchers as to how to measure and define interpersonal partner violence (IPV: physical and psychological violence perpetrated by men against their female partners). Recent articles in

Authors' Note: This study was supported by a grant from the National Institute of Justice to the first, second, and fifth authors (Grant No. 8-7958-MI-IJ). Portions of this article were presented at the Victimization of Children and Youth International Research Conference in June 2000. The authors would like to thank the following research assistants for their invaluable help: Sondra Wilen, Alissa Huth-Bocks, Robin Weatherill, Jennifer Trotter, Stephanie Ptak, Cheryl Refuerzo, Liza Kelly, Brandy Kenworthy, Waseya Cornell, Heather Dunton, Susan Marsiglia,

JOURNAL OF INTERPERSONAL VIOLENCE, Vol. 18 No. 11, November 2003 1271-1291
DOI: 10.1177/0886260503256657

© 2003 Sage Publications

the literature have attempted to delineate distinct forms of violence against women (e.g., Johnson, 1995; Johnson & Ferraro, 2000) and distinct types of men who engage in partner abuse (e.g., Holtzworth-Munroe & Stuart, 1994). Johnson (1995) has argued persuasively for more fine-grained distinctions of IPV experiences; such efforts may help resolve disparate findings in the literature regarding the psychosocial effects of IPV.

One factor that distinguishes women experiencing IPV is whether or not they have a history of such experiences prior to the current abuse. This is a factor that is rarely measured and rarely used as a predictor to understand the consequences of IPV. Because lifetime prevalence rates of IPV are high, this may be an unwise conceptual and methodological decision (cf. Levendosky & Graham-Bermann, 1998, 2001). For example, in one study (Kemp, Green, Hovanitz, & Rawlings, 1995), 41% of a group of currently battered women reported a history of physical abuse with previous partners. Without information about a woman's history of IPV, it is not clear whether the psychological consequences of IPV noted by researchers (e.g., depression, low self-esteem) are affected primarily by recent IPV experiences or cumulative experiences over time. Stress research would indicate that differential psychological outcomes occur as a result of whether the stressful event is acute or chronic.

Research on stress indicates that the person and the environment have a transactional relationship with one another (Lazarus & Folkman, 1984), in part because an individual's subjective appraisal of a negative event determines its impact on the individual (Aldwin & Revenson, 1987; Lazarus, 1991). Individuals will find an event stressful if it threatens their physical or emotional well-being (Thoits, 1983) or their goals and needs (Lazarus, 1991). "Events that threaten highly valued areas of people's lives, or areas in which people stake their personal identities, generally constitute severe stressors" (Park & Folkman, 1997, p. 123). The greater an individual's stake in a stressful encounter, the greater the chance for psychological distress (Folkman & Lazarus, 1986; Folkman, Lazarus, Gruen, & DeLongis, 1986). Research has found that severe, ongoing stress (compared to acute stressors) with family or physical aspects of one's environment (e.g., housing) is the most damaging to an individual's mental health (Brown & Harris, 1978; Gersten, Langner, Eisenberg, & Simcha-Fagan, 1977).

IPV is usually a chronic stress in women's lives (Woods & Campbell, 1993) that threatens their physical and psychological well-being (Carlson, 1997). Rodriguez (1989) found that 68% of women living in a shelter described themselves as under a great deal of stress. Several researchers sug-

gest that the stress associated with IPV leads to poor mental and physical health (e.g., Campbell, Kub, Belknap, & Templin, 1997; Dutton, Haywood, & El-Bayoumi, 1992). Sutherland, Bybee, and Sullivan (2002) found that stress had both direct and mediating effects on physical health.

Several theories have been advanced to account for why chronic stress is so negative; some of these may explain the stressfulness of IPV. One theory is that chronic stress leads to increased numbers of other negative life events (Sandler, Braver, & Gensheimer, 2000), a finding corroborated by IPV researchers (e.g., Campbell et al., 1997; Jaffe, Wolfe, Wilson, & Zak, 1986). For example, Mitchell and Hodson (1983) noted that in situations of IPV, women also experience diminished personal and social resources for dealing with stress. Herman (1992a, 1992b) has advanced another theory. She argued that chronic trauma, including IPV, leads to negative psychological symptoms (e.g., depression and anxiety) that result from the ongoing nature of the trauma. Such symptoms increase stress in an individual's life. Other theorists suggest that the relationship between a woman's functioning and IPV are transactional such that negative mental health consequences may affect whether the woman is abused in the future (Dutton & Painter, 1993; Graham, Rawling, & Rigsby, 1994). Thus, research on stress and IPV suggests that "chronic" IPV would be more stressful, and have more deleterious consequences to the individual, than "acute" forms of IPV.

Although most research does not assess IPV history, one notable exception is research on posttraumatic stress. Because theory suggests that trauma exposure strongly predicts PTSD in a variety of trauma groups (e.g., rape survivors) (Kilpatrick, Saunders, Amick-McMullan, Best, & Veronen, 1989) and combat soldiers (e.g., Frye & Stockton, 1982), research in this area often assesses the woman's history of IPV, including abuse in previous relationships, as well as other types of trauma (e.g., child abuse). In this literature, findings indicate that severity of current IPV, recency of IPV, and past abuse/trauma increase the likelihood and severity of PTSD (Astin, Lawrence, & Foy, 1993; Houskamp & Foy, 1991; Kemp et al., 1995; Kemp, Rawlings, & Green, 1991). Unfortunately, our understanding of how one's history of IPV influences PTSD is limited because researchers often do not explain how they assessed history, severity of past IPV is not assessed, and prior IPV and other earlier traumas are often collapsed into one category for purposes of statistical analyses.

Extant survey research also fails to address adequately the history of IPV. Survey research often uses a marker of 1 year prior to the interview to ascertain whether IPV has occurred (Marshall & Vitanza, 1994; Morse, 1995; Rodriguez, Lasch, Chandra, & Lee, 2001; Straus & Gelles, 1986, 1990). It is often not known whether participants experienced IPV at an earlier time peri-

od, and, if they did, the extent or the severity of the earlier abuse. However, if history of IPV is not assessed, women who are labeled “controls” or “nonabused” because they have not experienced IPV in the designated time period may, in fact, have experienced IPV earlier in their lives. Such research methodologies may be examining differences between “distal” and “proximal” IPV, not IPV and no IPV.

Finally, regardless of the time metric employed to determine IPV status, researchers typically do not ascertain whether the woman had the same partner during that time or a sequence of different partners. Stability or change of partners over time may be an important consideration when predicting a couple’s violent behavior. For example, Wofford, Elliott, and Menard (1994) found that 58% of men with new partners continue to perpetrate, and 49% of women with new partners still experience victimization. However, in several studies, length of time in a relationship did not predict whether or not violence occurred in those relationships (Lackey & Williams, 1995; Rodriguez et al., 2001). Analyzing data from National Family Violence Surveys (NFVS), a national probability sample, Johnson (1995) noted that in the course of 1 year, among couples with minor violence, there is “virtually no tendency to escalation . . . [and] that in most (79%) of the cases of severe violence, there is, in fact, a de-escalation.” (p. 287). More research on stability or change in partners is needed to understand how this factor affects violence. In addition, no research has examined this factor in predicting the psychosocial outcomes of women in violent relationships.

The psychosocial outcomes measured in the present study have been linked to IPV in previous research: depression, anxiety, self-esteem, post-traumatic stress, social support, and the quality of the relationship with partner. This literature suggests that, generally, women in abusive relationships tend to have high levels of depression and anxiety and low self-esteem (Campbell & Lewandowski, 1997; Campbell, Sullivan, & Davidson, 1995; Dutton & Painter, 1993; Gelles & Harrop, 1989; Hilberman & Munson, 1977-1978; Jaffe et al., 1986; Mitchell & Hodson, 1983; Sato & Heiby, 1992).

In addition, the prevalence of posttraumatic stress in women experiencing IPV is high; rates range from 33% to 85%, depending on the sample and the protocol used to measure PTSD (Astin et al., 1993). In this literature, at least one study linked PTSD to history of trauma, although not solely IPV trauma (Kemp et al., 1995).

The quality of the marital relationship is also related to violence. Some writers have noted that conflict, reductions in intimacy, decline in marital satisfaction, and so forth precipitate episodes of IPV (e.g., Leonard & Blane, 1992; Rounsaville, 1978; Steinmetz, 1977-1978). McKenry, Julian, and

Gavazzi (1995) found that relationship quality was negatively associated with episodes of IPV. Finally, positive social support among severely abused women is associated with greater well-being (e.g., Mitchell & Hodson, 1983; Sato & Heiby, 1992). Social support can also be a protective factor against poor health outcomes among pregnant women experiencing IPV (Huth-Bocks, Levendosky, & Bogat, 2002). In addition, data from the 1992 National Survey of Families indicated that satisfaction with social relationships (excluding partner) was associated with less violence overall (Rodriguez et al., 2001).

Importantly, however, not all women experiencing IPV exhibit these negative psychosocial outcomes. For example, disparate findings regarding depression have been linked to recency and severity of abuse, different types of violence experienced, and the presence or absence of social support (Campbell et al., 1995; Johnson, 1995; Sato & Heiby, 1992). Although PTSD has been linked in one study to earlier trauma (Kemp et al., 1995), most research has not explored whether history of IPV has differential influences on these psychosocial outcomes.

The current study is unique in that it consists of data collected from pregnant women during their last trimester of pregnancy. Estimates indicate that IPV is experienced by as many as 20% of pregnant women seeking prenatal care (Gazmararian, Adams, & Pamuk, 1996). There seems to be some evidence that violence increases over the course of pregnancy and continues during the first 3 months postpartum (Stewart, 1994). Little research on pregnant women, IPV, and mental health has been conducted. Existing studies report that pregnant women experiencing IPV have significantly higher levels of anxiety, depression, and emotional stress compared to nonbattered women (Campbell, Poland, Waller, & Ager, 1992; Stewart & Cecutti, 1993). One study reported that 53% of the battered pregnant women met criteria for a major depressive disorder, and an additional 30% met criteria for another psychiatric disorder (Stewart, 1994). Interestingly, another study found that abused women believed that they had little control over the health of their fetuses and that chance played the biggest role in the outcome of their pregnancy (Stewart & Cecutti, 1993).

Sandler et al. (2000) suggested that one stress variable may change the effect of another.

A stressful ongoing condition may create a context that exacerbates the stressful impact of discrete life stressors. For example, . . . economic poverty may lead a person to appraise events (e.g., illnesses, moving, accidents) more negatively because the person realistically perceives that he or she does not have the needed resources to cope with the event. (pp. 195-196)

Thus, the emotional sequelae of IPV (e.g., depression and anxiety) may be exacerbated during pregnancy due to the additional stress and worries associated with concerns about the fetus as well as concerns about the mother's vulnerability and well-being. For example, the mother may fear that the baby is being harmed by the abuse, or she may worry that the child will suffer from exposure to the abuse after he or she is born.

It is likely that extant research on IPV (both empirical and survey) includes pregnant women, but pregnancy is not examined as a separate variable. Given that most women will become pregnant at some point during their lifetimes, a closer examination of pregnancy, IPV, and mental health is warranted.

In the present study, women were asked to report on IPV experiences at three different time periods: with their current partner during their pregnancy (past 6 months), with their current partner during the year before their current pregnancy, and with their most recent previous partner. The purpose of this study was to determine whether making distinctions among women based on their history of IPV provided a better understanding of their psychosocial outcomes than did a more typical abused versus not-abused grouping. Theoretical work on stress and trauma suggested that these distinctions would be meaningful and that women experiencing the most chronic abuse would have the poorest mental health outcomes.

METHOD

Participants

The participants were 205 women recruited as part of an ongoing longitudinal study examining risk and resilience factors for IPV in women and children. The racial/ethnic backgrounds of these women are 63% Caucasian, 25% African American, 5% Latina, and 7% other. Their mean age at the first interview was 25.4 ($SD = 5.00$). One half (50%) of the women were single, never married; 40% were married; and 10% were separated, divorced, or widowed. The average length of their current intimate partner relationships was 4.63 years ($SD = 4.29$). The intimate partner relationship prior to the current one lasted, on average, 2.18 years ($SD = 2.12$) and had ended, on average, 4.40 years ($SD = 3.28$) before the date of the interview. Most women had at least one child (58% had biological children; mean = 1.00). Finally, 17% of the women had not completed high school, 28% were high school educated, 7% had completed a trade school degree, 35% had attended some college,

and 13% had at least a college degree. Their median monthly income was \$1,500 (range: \$0 to \$9,500).

Measures

The Severity of Violence Against Women Scales (SVAWS). The SVAWS (Marshall, 1992) is a 46-item questionnaire assessing the frequency of nine categories of violent behavior and threats that the woman experienced from her partner. Examples of items include “destroyed something belonging to you” and “punched you.” Respondents rate their experiences on a 4-point scale ranging from *never* to *many times*. Women filled out the scale for three time periods: (a) during their pregnancy with current partner, (b) the year before pregnancy with current partner, and (c) with the previous partner. Three separate scores were obtained; coefficient alphas were .94, .97, and .98, respectively. The possible range of scores is 0 to 138; higher scores indicate greater frequency of abuse.

The Conflict Tactics Scales (CTS). The 14-item verbal and physical aggression scales from the CTS (Straus, 1979) were used. Examples of items include “threw something at you” and “threatened you with a gun or knife.” Respondents rate items on a 7-point, Likert-type scale ranging from 0 (*never*) to 6 (*more than 20 times*). Women filled out the scale for two time periods: (a) during her pregnancy and (b) the year before pregnancy. Coefficient alphas for each time period were .88 and .91, respectively. The possible range of scores is 0 to 84; higher scores indicate greater frequency of abuse.

Beck Depression Inventory (BDI). The BDI (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) has 21 questions, each containing four statements about symptoms and attitudes related to depression (e.g., guilty feeling, indecisiveness). The statements are ranked in order of increasing severity. Statements that reflect little or no depression are scored 0, with more depressed statements receiving scores of 1, 2, or 3. Participants identify which statement best reflects how they have been feeling during the past week. The coefficient alpha in this study was .85. Responses on all items were summed for a total score; higher scores indicated more depression (range: 0 to 63).

Brief Symptom Inventory—Anxiety Scale (BSI). On the BSI (Derogatis & Melisaratos, 1983), participants rate six items on a 5-point scale ranging from 0 (*not at all*) to 4 (*extremely*). Examples of items include “feeling tense

or keyed up” and “feeling fearful.” In the present study, the coefficient alpha was .78. The possible range of scores is 0 to 24.

PTSD Scale for Battered Women. The PTSD Scale for Battered Women (Saunders, 1994) consists of 17 items based on the *DSM* criteria for PTSD. Examples of items include “unpleasant memories of the behaviors you can’t keep out of your mind,” and “being overly alert.” Participants rate, on an 8-point scale ranging from 0 (*never*) to 7 (*over 100 times*), their experiences resulting from IPV. The coefficient alpha in this sample was .97. Higher scores indicate greater endorsement of PTSD symptomatology (range: 0 to 119).

Rosenberg Self-Esteem Scale. The Rosenberg Self-Esteem Scale (Rosenberg, 1965) consists of 10 items measuring self-worth and self-acceptance. Examples of items include “I feel that I have a number of good qualities” and “I certainly feel useless at times.” Respondents rate their agreement on a 4-point, Likert-type scale ranging from 1 (*strongly agree*) to 4 (*strongly disagree*). The coefficient alpha for the present study was .89. Higher scores indicate higher levels of self-worth (range: 10 to 40).

Dyadic Adjustment Scale (DAS). The 32-item DAS (Spanier, 1976) assesses the quality of marriages and partnerships. Response categories vary on different portions of the scale. Items 1 to 15 ask questions about agreement on various marital problems/issues and are scored on a 6-point scale ranging from 0 (*always disagree*) to 5 (*always agree*). Items 16 to 24 assess positive and negative feelings about the partnership and are scored on a 6-point scale from 0 (*all the time*) to 5 (*never*). Items 25 and 26 assess loving behavior and are scored 1 = yes and 2 = no. Items 27 to 30 discuss positive interactions with the partner and are scored on a 6-point scale ranging from 0 (*never*) to 5 (*more often*). Item 31 is rated on a 6-point scale (0-5) and assesses the participant’s assessment of the future of the relationship (higher scores indicate more commitment to the relationship). Finally, Item 32, rated on a 7-point scale from 0 (*extremely happy*) to 6 (*perfect*) assesses the participant’s degree of happiness with the partnership. Higher scores represent greater satisfaction with the relationship. The coefficient alpha for the present study was .95.

Norbeck Social Support Scale. This scale (Norbeck, Lindsey, & Carrieri, 1981) assesses the social support provided by individuals in the participants’ social network. Participants list each significant person in their lives and answer questions about the type of support that each person provides as well

as other information about the relationship. The emotional support and practical aid support scales were used in this study. The authors added questions about support specific to pregnancy to the practical aid scale. Participants rate the provision of support on a 5-point scale ranging from 0 (*not at all*) to 4 (*a great deal*). Scores were summed across supporters and then averaged by the number of supporters to calculate separate scores for emotional and practical aid support.

Procedure

Participants were recruited from communities and professional settings in southwestern Michigan. Inclusion criteria were: 18 to 40 years of age, facility with the English language, and involvement in a romantic relationship for at least 6 weeks sometime during the pregnancy. Women calling the project office were screened for IPV status using the CTS. This allowed us to recruit a sample that had a wide variety of IPV experiences. (Many procedures were put in place to protect the confidentiality of participants and to ensure that women could participate without the knowledge of their partners, if need be.) Fifteen women did not meet inclusion criteria; there were no significant differences between those who participated and those who did not on any demographic variables.

Eight undergraduate and five graduate research assistants were trained to administer the questionnaires. Research assistants attended a weekly training meeting for one semester. They conducted two to five interviews under supervision until they reached 95% reliability for standard administration of measures. Throughout the period of data collection, research assistants continued to attend a weekly training meeting. In addition, supervisors reviewed all completed interviews to ensure fidelity of administration.

Interviews took place at the participant's home or at the project offices. By administering violence questionnaires at the end of the interview, interviewers were blind to the IPV status of the women for as long as possible. Interviews lasted approximately 3 hours. Participants were paid \$50 and were given a list of community resources for pregnant and parenting women.

RESULTS

The purpose of this study was to determine whether, when predicting psychosocial outcomes for IPV, it makes a difference if one assesses the participant's history of IPV rather than simply her current experience of IPV (e.g., during the last 6 months). To answer this question, we developed two

	Two-Group Classification	Four-Group Partner Classification (a)	Four-Group Time Classification (b)
No IPV (<i>i</i> ; <i>n</i> =51)			
IPV by previous partner only (<i>ii</i> ; <i>n</i> =33)			
IPV in the year before pregnancy only (<i>iii</i> ; <i>n</i> =13)			
IPV during current pregnancy only (<i>iv</i> ; <i>n</i> =10)			
IPV by previous partner and in the year before current pregnancy (<i>v</i> ; <i>n</i> =18)			
IPV by previous partner and during current pregnancy (<i>vi</i> ; <i>n</i> =7)			
IPV during year before and current pregnancy (<i>vii</i> ; <i>n</i> =31)			
IPV at all times by all partners (<i>viii</i> ; <i>n</i> =42)			

Figure 1: Description of Classifications of IPV

types of classification systems. The first was a two-group classification that divided participants into those with no IPV during the past 6 months and those with one or more episodes of IPV during this time. Women were classified as having experienced IPV if they endorsed any item higher than question 9 on the SVAWS or endorsed any item higher than question 6 on the CTS (i.e., including threats of or actual physical violence). The second type of classification offered alternative methods of classification to the typical approach. We developed two different four-group systems—one that defined groups based on who the perpetrator was (the partner grouping) and another that defined groups based on when the IPV occurred (the time grouping) (see Figure 1).

The two-group classification resulted in 90 women who had experienced IPV during their current pregnancy and 115 who had not. Independent-group *t* tests revealed mean differences on all the demographic variables. Women in the IPV group had more biological children, more people living in their household, a lower family income, and were more likely to be single and to have a partner with a lower educational level. Because socioeconomic status,

including educational level, has been related to partner violence (e.g., Gelles & Loseke, 1993), the educational level of our participants was controlled in the following MANOVA.¹ This grouping accounted for 34% of the variance (Wilks's lambda = .66). Significant differences were found between the two groups on all psychosocial variables. Women experiencing IPV, compared to those women with no IPV in the last 6 months, had higher scores on PTSD, anxiety, depression, and severity of IPV.² They had lower levels of emotional support, practical aid support, self-esteem, and relationship satisfaction (see Table 1).

The second classification created two groupings based on either the source of the violence (partner) or the time frame of the violence (time). Each grouping combined eight discrete categories based on the manner in which the SVAWS and CTS were administered: (i) no IPV experiences with either the current or the previous partner; (ii) IPV during the current pregnancy with the current partner; (iii) IPV in the year before pregnancy with the current partner; (iv) IPV during the year before and during the current pregnancy, both with the current partner; (v) IPV by the previous partner only; (vi) IPV by the previous partner and during the current pregnancy with the current partner; (vii) IPV by the previous partner and in the year before the current pregnancy with the current partner; and (viii) IPV at all times by current partner as well as IPV by previous partner (see Figure 1).

Recombining these 8 groups, the partner classification resulted in four final groups: (1a) women with no experiences of IPV, shaded black (i; n=51); (2a) women who had only experienced violence with their current partner, shaded light gray (iii, iv, v, vi, vii; n=78); (3a) women who had only experienced violence with their previous partner, shaded dark gray (ii; n=33); and (4a) women who had experienced violence with both their current and previous partners, shaded medium gray (viii; n=42) (see Figure 1). A MANOVA was used to compare these four groups; education was again used as a covariate.³ This grouping accounted for 43% of the variance (Wilks's lambda = .57). Mean differences were found between groups for all psychosocial variables, except for practical aid. The differences between the individual groups were analyzed using univariate *F* tests.

Because there were no group differences on practical aid, "all" refers to the remaining psychosocial variables. Group 1a was significantly different from Group 2a on all outcomes, except anxiety and emotional support; Group 2a had poorer outcomes. Group 1a was significantly different from Group 4a on all outcomes, with Group 4a having poorer outcomes. Groups 1a and 3a were not significantly different from one another, except for scores on PTSD, where Group 3a had higher scores. Group 2a differed from Group 3a on emotional support, relationship satisfaction, and depression, where

TABLE 1: Mean Scores on Psychosocial Outcomes for the IPV Classifications

	<i>Emotional Support</i>	<i>Practical Aid Support</i>	<i>Relationship Satisfaction</i>	<i>Anxiety</i>	<i>Depression</i>	<i>Self-Esteem</i>	<i>PTSD</i>	<i>IPV Severity Scores</i>
Two-group classification	**	*	**	**	**	**	**	**
Women not experiencing IPV in past 6 months (<i>n</i> = 115)	3.42	2.60	3.65	3.72	8.05	34.23	8.11	3.33
Women experiencing IPV in past 6 months (<i>n</i> = 90)	3.10	2.41	2.89	6.03	13.68	31.31	22.89	10.58
Partner classification	**		**	**	**	**	**	**
(1a) Women with no experiences of IPV (<i>i</i> ; <i>n</i> = 51)	3.43 ^c	2.65	3.70 ^{a,c}	3.55 ^c	7.08 ^{a,c}	35.37 ^{a,c}	.37 ^{a,b,c}	1.55 ^{a,b,c}
(2a) Women who had experienced IPV with their current partner (<i>iii</i> , <i>iv</i> , <i>v</i> , <i>vi</i> , <i>vii</i> ; <i>n</i> = 79)	3.21 ^d	2.48	3.13 ^{a,d,e}	4.92 ^e	11.78 ^{a,d}	31.87 ^a	14.94 ^{a,e}	19.87 ^{a,e}
(3a) Women who had only experienced IPV with their previous partner (<i>ii</i> ; <i>n</i> = 33)	3.53 ^{d,f}	2.61	3.77 ^{d,f}	2.97 ^f	8.06 ^{d,f}	33.97	14.38 ^{b,f}	18.27 ^{b,f}
(4a) Women who had experienced IPV with both their current and previous partners (<i>viii</i> ; <i>n</i> = 42)	3.03 ^{c,f}	2.35	2.81 ^{c,e,f}	7.26 ^{c,e,f}	14.36 ^{c,f}	31.31 ^c	31.38 ^{c,e,f}	45.15 ^{c,e,f}
Time classification	**		**	**	**	**	**	**
(1b) Women with no history of IPV (<i>i</i> ; <i>n</i> = 51)	3.43 ^{a,c}	2.65	3.70 ^{a,c}	3.55 ^c	7.08 ^{a,c}	35.37 ^{a,c}	.37 ^{a,b,c}	.59 ^{a,b,c}
(2b) Women experiencing IPV in their current pregnancy (<i>iv</i> , <i>vi</i> , <i>vii</i> ; <i>n</i> = 48)	3.16 ^a	2.45	2.95 ^{a,d}	4.96 ^e	13.08 ^{a,d}	31.31 ^a	15.42 ^{a,e}	7.54 ^{a,e}
(3b) Women experiencing IPV prior to their current pregnancy (<i>ii</i> , <i>iii</i> , <i>v</i> ; <i>n</i> = 64)	3.41 ^f	2.56	3.60 ^{d,f}	3.86 ^f	8.83 ^{d,f}	33.41	14.28 ^{b,f}	6.19 ^{b,f}
(4b) Women who experienced IPV at all time periods (<i>viii</i> ; <i>n</i> = 42)	3.03 ^{c,f}	2.35	2.81 ^{c,f}	7.26 ^{c,e,f}	14.36 ^{c,f}	31.31 ^c	31.38 ^{c,e,f}	15.21 ^{c,e,f}

a. Group 1 differs significantly from Group 2.

b. Group 1 differs significantly from Group 3.

c. Group 1 differs significantly from Group 4.

d. Group 2 differs significantly from Group 3.

e. Group 2 differs significantly from Group 4.

f. Group 3 differs significantly from Group 4.

p* < .05. *p* < .01.

Group 3a scored significantly worse. Group 2a differed from Group 4a on PTSD, anxiety, and relationship satisfaction, where Group 4a scored significantly worse. Group 4a scored significantly worse, compared to Group 3a, on all variables except for self-esteem. See Table 1.

Using ANOVA, we also examined the severity of violence averaged across all measurement periods for each of the four groups. As expected, Group 4a had the highest severity of IPV, followed by Groups 2a and 3a. Group 1a (no IPV) was significantly different from all other groups; Group 4a was significantly different from all other groups. Groups 2a and 3a did not differ significantly from one another.

There were two possible time classifications that could be obtained by recombining the eight groups listed above. Because the four-group time classification accounted for more variance than the three-group, only it will be discussed here.⁴ All analyses were MANOVAs, controlling for education. The four category solution was: (1b) women with no history of IPV, shaded black as before (*i*; $n=51$); (2b) women experiencing IPV in their current pregnancy, shaded light gray (*iv*, *vi*, *vii*; $n=48$); (3b) women experiencing IPV prior to their current pregnancy, shaded dark gray (*ii*, *iii*, *v*; $n=64$); and (4b) women who experienced IPV at all time periods, shaded medium gray as before (*viii*; $n=42$) (see Figure 1). This classification accounted for 44% of the variance (Wilks's lambda = .56). There were no mean differences between the 4 groups on practical aid support; therefore, "all" refers to the remaining psychosocial variables.

Univariate *F* tests indicated that Group 1b was significantly different, in the expected direction, from Group 4b on all variables. Group 1b also differed from Group 2b on all variables except anxiety, again in the expected direction. Group 1b did not differ from Group 3b on any outcome except PTSD, where Group 3b had significantly worse scores. Few mean differences between Groups 2b and 3b or 2b and 4b were found; Group 2b scored worse than 3b on both relationship satisfaction and depression, and Group 4b scored worse than 2b on PTSD and anxiety. Finally, Group 3b and 4b differed on all variables except for self-esteem, with Group 4b always scoring worse than 3b. Group 4b had the highest severity of IPV, followed by Groups 2b and 3b. Group 1b (no IPV) differed significantly from each of the other three groups, as did Group 4b. Groups 2b and 3b did not significantly differ from one another.

In comparing the two, four-group classifications to the original two-group classification, there are several interesting points to note. Fifty-one members of the no IPV group in the two-group classification are the only members in the no IPV group in either of the two four-group classifications. The remaining 64 members of the no IPV group in the two-group classification shift into

Group 3b in the four-group time classification or are spread between Groups 2a and 3a in the four-group partner classification. Finally, the 90 members of the IPV group in the two-group classification are dispersed between two of three groups in the four-group classifications. For the partner grouping, 48 participants joined Group 2a and 42 joined Group 4a. For the time grouping, the same 48 participants and 42 participants joined Groups 2b and 4b, respectively.

DISCUSSION

In the current study, women reported whether they had IPV in the last 6 months with the current partner, in the last year with the current partner, and with a partner previous to the current one. We examined psychosocial outcomes and possible differences between women when using a two-group categorization often employed by researchers (no IPV vs. IPV during the last 6 months) and two different four-group categorizations that created groups based on time or partner.

Some of the women in the two-group, no IPV classification have actually experienced IPV when a broader time period is examined. Forty-four percent of the women who have not experienced IPV in the last 6 months also have not experienced it during the broader period of their lives that we assessed; however, 56% have some prior experience of IPV. In the partner classification, about half of these women join the group who have only experienced violence with their current partner; the other half join the group of women who have only experienced violence with a previous partner. When examining the time classification, these same women constitute their own new group, a distal violence group.

This finding suggests that grouping women into IPV versus no IPV, based only on experiences during the past 6 months, may inadvertently categorize some women as being nonabused, when, in fact, they are with partners who have, prior to the last 6 months, abused them. The 6-month classification made common sense in the present study given that we were assessing women in the last trimester of their pregnancy and we wanted to determine, in part, the effects of pregnancy on IPV. However, the MANOVA results of the two possible four-group classifications indicate the manner in which a two-group classification obscures real differences between these women. For example, when comparing IPV to no IPV women in the two-group classification, all of the psychosocial outcomes were significantly different, with women experiencing IPV faring worse on all outcomes. However, in both of the four-group classifications, most of the significant differences are

between the no IPV and the chronic IPV groups—those women who have experienced IPV at all the time points with both current and previous partners. These clear-cut differences would be obscured if the IPV group was composed of women who had experienced violence during the last 6 months.

This is potential support for researchers and theorists who argue that chronic stress or chronic trauma causes deeper and more profound psychological suffering than stress or trauma that is acute and short-term (Brown & Harris, 1978; Gersten et al., 1977; Herman, 1992a, 1992b). IPV may be such a chronic stress in the lives of women (Woods & Campbell, 1993). Women who are pregnant and also experiencing IPV may be under even greater stress (Campbell et al., 1992; Stewart, 1994; Stewart & Cecutti, 1993).

The negative outcomes of chronic stress may be the result of several processes. For example, chronic stress in one arena of an individual's life can lead to increased numbers of related but different stressors, both minor and major (Sandler et al., 2000). Thus, chronic stress ultimately results in a compounding of stress for the individual. Such an effect has been noted by researchers studying IPV (e.g., Mitchell & Hodson, 1983).

Negative psychological effects of chronic stress have also been postulated. Herman (1992a, 1992b) noted that individuals suffering from chronic trauma, including IPV, may develop complex traumatic syndrome, which includes PTSD symptoms as well as symptoms caused by the long-term nature of the trauma, such as depression, anxiety, and characterological changes caused by living in constant fear. Several theorists suggest that the negative effects of IPV are due to the development of traumatic bonding as a survival strategy in abusive relationships (Dutton & Painter, 1993; Graham et al., 1994). Both complex traumatic syndrome and traumatic bonding theory suggest a transactional relationship between women's functioning and IPV—the changes in women's functioning that result from IPV may affect the likelihood of future IPV experiences. In addition, empirical support finds that higher levels of violence, as measured over the past year, are associated with more psychological distress (e.g., Gelles & Harrop, 1989) and that past abuse/trauma (although not necessarily IPV) was related to current PTSD (Kemp et al., 1995).

When examining the two four-group classifications, the groups that have the next worst outcomes (after the chronic IPV group) are those women who experienced continuity of abuse with a current partner and those abused during the current pregnancy (Group 2 in either of the four-group classifications). Thus, on psychosocial outcomes, recency of IPV as well as continuity of IPV with one's current partner matter. However, these women experience no greater severity of abuse than those in Group 3. In both of the four-group classifications, the psychosocial indicators of Group 3 look very similar to

Group 1 (no IPV), and in both of these classifications, Group 3 indicates violence that occurred more distally (either with a previous partner or at a time prior to the pregnancy). If our findings are replicated with other samples, they would suggest that much survey literature, which uses a 1-year time frame to assess violence, may be confounding very different experiences of IPV when examining abused versus nonabused groups. Such markers for abuse miss the significance of recent IPV with one's current partner, the continuity of IPV with one's current partner, and the chronicity of IPV across different partners and time periods.

Some possible limitations of these findings should be noted. First, the four-group categorization is based, in part, on retrospective reports of IPV experiences with the partner prior to the current one. Because the reports of IPV in this study vary in terms of recency, they may also vary in salience. Past IPV was queried by having participants indicate the beginning and ending dates of the prior relationship and then showing them the SVAWS (this was the identical procedure used to assess IPV with the most recent partner). Such a procedure lessens the poor reliability associated with retrospective reporting of "subjective psychological states and family processes," and focuses the participant on more "memorable" events that show better recall (Henry, Moffitt, Caspi, Langley, & Silva, 1994, p. 92). Thus, although procedures minimized the possibility of errors in recall, it is possible that more serious events were recalled with greater frequency than were less serious events.

Second, part of the manner in which the temporal experiences of IPV were assessed (i.e., experiences with most recent previous partner) allowed each participant to have a unique retrospective account. That is, some previous partners may have been within the past year, others may have been much longer ago. The advantages of standardizing data collection across participants created the disadvantage of including women in the chronic IPV group with varying years experience of IPV. However, given that the women in this study were relatively young (mean age = 25.4 years), there were not dramatic differences in the length of time between the ending of the prior relationship and the interview date or the length of the prior relationship itself.

However, the results of our study indicate that the variable time frame may not be a threat to the validity of this study. First, if the measure of previous partner abuse was meaningless because of the variable time frame, one would expect that the amount of error variance would make it difficult, if not impossible, to find a significant result for chronicity. However, chronicity is an important grouping; most of the significant differences are between the no IPV and the chronic IPV group. Second, sampling IPV with prior partners that occurred at various time periods prior to the current relationship may be

viewed as a valid methodology. In other words, we did, in effect, sample prior intimate relationships of variable duration. That we find effects for chronicity suggests that our results are generalizable to a wide variety of women and a wide variety of prior relationship lengths.

A third limitation of this study was that it was cross-sectional. Thus, it is not known whether the psychosocial outcomes are viewed as precursors or predictors of IPV, as consequences, or both.

In summary, as the field of IPV moves toward greater specificity in understanding the types of violence that women experience, it behooves researchers to examine more closely the IPV experiences of their participants. This study indicates the importance of assessing a participant's history of IPV when examining the effects of violence on psychosocial outcomes. Chronicity of violence (across partners and time) is related to worse psychosocial outcomes and greater severity of IPV. However, recency of IPV and continuity of IPV with one's current partner affect psychosocial outcomes more negatively than more distal indicators of IPV (IPV only with previous partner, and IPV prior to the current pregnancy). Thus, neither recency (last 6 months) nor continuity of IPV with one's partner fully explain the psychosocial outcomes of participants when examining groups beyond those having no IPV and chronic IPV. Future research should attempt to assess retrospective histories of IPV in more detail, but, more importantly, prospective, longitudinal studies are needed to examine these issues without the biases inherent in retrospective methodologies.

NOTES

1. Women in the no IPV group were also older than women in the IPV group (means = 26.14 and 23.33, respectively). When age was added as a covariate in the analyses for the two groups, the results did not change.

2. Criteria for membership in the no IPV group was based on no endorsement of items above number 9 on the Severity of Violence Against Women Scales (SVAWS). However, severity scores were calculated for all items on the SVAWS; hence, women in the no IPV group could have a severity score.

3. The univariate F for age was significant for both of the four-group classifications. However, when age was added as a covariate in analyses for each of the four-group classifications, the results did not change.

4. The three-category solution was: women with no history of IPV (i ; $n = 51$); women experiencing IPV in their current pregnancy (iv , vi , vii , $viii$; $n = 90$); and women experiencing IPV prior to their current pregnancy (ii , iii , v ; $n = 64$). A MANOVA indicated that this classification accounted for 38% of the variance (Wilks's lambda = .62).

REFERENCES

- Aldwin, C. M., & Revenson, T. A. (1987). Does coping help? A reexamination of the relation between coping and mental health. *Journal of Personality and Social Psychology*, *53*, 337-348.
- Astin, M. C., Lawrence, K. J., & Foy, D. W. (1993). Post-traumatic stress disorder among battered women: Risk and resiliency factors. *Violence and Victims*, *8*(1), 17-28.
- Beck, A. T., Ward, C. H., Mendelson, M., Mock, J., & Erbaugh, J. (1961). An inventory for measuring depression. *Archives of General Psychiatry*, *4*, 561-571.
- Brown, G. W., & Harris, T. (1978). *Social origins of depression*. New York: Free Press.
- Campbell, J. C., Kub, J., Belknap, R. A., & Templin, T. N. (1997). Predictors of depression in battered women. *Violence Against Women*, *3*(3), 271-293.
- Campbell, J. C., & Lewandowski, L. A. (1997). Mental and physical health effects of intimate partner violence on women and children. *Psychiatric Clinics of North America*, *20*(2), 353-374.
- Campbell, J. C., Poland, M. L., Waller, J. B., & Ager, J. (1992). Correlates of battering during pregnancy. *Research in Nursing Health*, *15*, 219-226.
- Campbell, R., Sullivan, C. M., & Davidson, W. S. (1995). Women who use domestic violence shelters: Changes in depression over time. *Psychology of Women Quarterly*, *19*(2), 237-255.
- Carlson, B. (1997). A stress and coping approach to intervention with abused women. *Family Relations*, *46*(3), 391-298.
- Derogatis, L. R., & Melisaratos, N. (1983). The Brief Symptom Inventory: An introductory report. *Psychological Medicine*, *13*(3), 595-605.
- Dutton, D. G., & Painter, S. (1993). Emotional attachments in abusive relationships: A test of traumatic bonding theory. *Violence and Victims*, *8*(2), 105-120.
- Dutton, M. A., Haywood, Y., & El-Bayoumi, G. (1992). Impact of violence on women's health. In S. J. Gallant, G. P. Keita, & R. Royak-Schaler (Eds.), *Health care for women: Psychological, social, and behavioral influences* (pp. 41-56). Washington, DC: American Psychological Association.
- Folkman, S., & Lazarus, R. S. (1986). Stress processes and depressive symptomatology. *Journal of Abnormal Psychology*, *95*(2), 107-113.
- Folkman, S., Lazarus, R. S., Gruen, R. J., & DeLongis, A. (1986). Appraisal, coping, health status, and psychological symptoms. *Journal of Personality and Social Psychology*, *50*(3), 571-579.
- Frye, J. S., & Stockton, R. A. (1982). Discriminant analysis of post-traumatic stress disorder among a group of Viet Nam veterans. *American Journal of Psychiatry*, *139*(1), 52-56.
- Gazmararian, J. A., Adams, M. M., & Pamuk, E. R. (1996). Associations between measures of socioeconomic status and maternal health behavior. *American Journal of Preventive Medicine*, *12*(2), 108-115.
- Gelles, R. J., & Harrop, J. W. (1989). Violence, battering, and psychological distress among women. *Journal of Interpersonal Violence*, *4*(4), 400-420.
- Gelles, R. J., & Loseke, D. R. (1993). *Current controversies on family violence*. Newbury Park, CA: Sage.
- Gersten, J. C., Langner, T. S., Eisenberg, J. G., & Simcha-Fagan, O. (1977). An evaluation of the etiological role of stressful life-change events in psychological disorder. *Journal of Health and Social Behavior*, *18*, 65-83.
- Graham, D. L. R., Rawling, E. I., & Rigsby, R. K. (1994). *Loving to survive: Sexual terror, men's violence, and women's lives*. New York: New York University Press.

- Henry, B., Moffitt, T. E., Caspi, A., Langley, J., & Silva, P. A. (1994). On the "remembrance of things past": A longitudinal evaluation of the retrospective methods. *Psychological Assessment, 6*(2), 92-101.
- Herman, J. L. (1992a). Complex PTSD: A syndrome in survivors of prolonged and repeated trauma. *Journal of Traumatic Stress, 5*(3), 377-391.
- Herman, J. L. (1992b). *Trauma and recovery*. New York: Basic Books.
- Hilberman, E., & Munson, K. (1977-1978). Sixty battered women. *Victimology, 2*, 460-470.
- Holtzworth-Munroe, A., & Stuart, G. L. (1994). Typologies of male batterers: Three subtypes and the differences among them. *Psychological Bulletin, 116*(3), 476-497.
- Houskamp, B. M., & Foy, D. W. (1991). The assessment of post-traumatic stress disorder in battered women. *Journal of Interpersonal Violence, 6*(3), 367-375.
- Huth-Bocks, A. C., Levendosky, A. A., & Bogat, G. A. (2002). The effects of domestic violence during pregnancy on maternal and infant health. *Violence and Victims, 8*, 1-17.
- Jaffe, P., Wolfe, D. A., Wilson, S., & Zak, L. (1986). Emotional and physical health problems of battered women. *Canadian Journal of Psychiatry, 31*(7), 625-629.
- Johnson, M. P. (1995). Patriarchal terrorism and common couple violence: Two forms of violence against women. *Journal of Marriage and the Family, 57*(2), 283-294.
- Johnson, M. P., & Ferraro, K. J. (2000). Research on domestic violence in the 1990s: Making distinctions. *Journal of Marriage and the Family, 62*(4), 948-963.
- Kemp, A., Green, B. L., Hovanitz, C., & Rawlings, E. I. (1995). Incidence and correlates of post-traumatic stress disorder in battered women: Shelter and community samples. *Journal of Interpersonal Violence, 10*, 43-55.
- Kemp, A., Rawlings, E. I., & Green, B. L. (1991). Post-traumatic stress disorder (PTSD) in battered women: A shelter sample. *Journal of Traumatic Stress, 4*(1), 137-148.
- Kilpatrick, D. G., Saunders, B. E., Amick-McMullan, A., Best, C. L., & Veronen, L. J. (1989). Victim and crime factors associated with the development of crime-related post-traumatic stress disorder. *Behavior Therapy, 20*(2), 199-214.
- Lackey, C., & Williams, K. R. (1995). Social bonding and the cessation of partner violence across generations. *Journal of Marriage and the Family, 57*(2), 295-305.
- Lazarus, R. S. (1991). *Emotion and adaptation*. New York: Oxford University Press.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer.
- Leonard, K. E., & Blane, H. T. (1992). Alcohol and marital aggression in a national sample of young men. *Journal of Interpersonal Violence, 7*(1), 19-30.
- Levendosky, A. A., & Graham-Bermann, S. A. (1998). The moderating effects of parenting stress on children's adjustment in woman-abusing families. *Journal of Interpersonal Violence, 13*(3), 383-397.
- Levendosky, A. A., & Graham-Bermann, S. A. (2001). Parenting in battered women: The effects of domestic violence on women and children. *Journal of Family Violence, 16*(2), 171-192.
- Marshall, L. L. (1992). Development of the Severity of Violence Against Women Scales. *Journal of Family Violence, 7*(2), 103-121.
- Marshall, L. L., & Vitanza, S. A. (1994). Physical abuse in close relationships: Myths and realities. In A. L. Weber & J. H. Harvey (Eds.), *Perspectives on close relationships* (pp. 263-284). Needham Heights, MA: Allyn & Bacon.
- McKenry, P. C., Julian, T. W., & Gavazzi, S. M. (1995). Toward a biopsychosocial model of domestic violence. *Journal of Marriage and the Family, 57*(2), 307-320.
- Mitchell, R. E., & Hodson, C. A. (1983). Coping with domestic violence: Social support and psychological health among battered women. *American Journal of Community Psychology, 11*(6), 629-654.

- Morse, B. J. (1995). Beyond the Conflict Tactics Scale: Assessing gender differences in partner violence. *Violence and Victims, 10*(4), 251-272.
- Norbeck, J. S., Lindsey, A. M., & Carrieri, V. L. (1981). The development of an instrument to measure social support. *Nursing Research, 30*(5), 264-269.
- Park, C. L., & Folkman, S. (1997). Meaning in the context of stress and coping. *Review of General Psychology, 1*(2), 115-144.
- Rodriguez, E., Lasch, K. E., Chandra, P., & Lee, J. (2001). Family violence, employment status, welfare benefits, and alcohol drinking in the United States: What is the relation? *Journal of Epidemiology and Community Health, 55*(3), 172-178.
- Rodriguez, R. (1989). Perceptions of health needs by battered women. *Response, 12*(4), 22-23.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- Rounsaville, B. J. (1978). Battered wives: Barriers to identification and treatment. *American Journal of Orthopsychiatry, 48*(3), 487-494.
- Sandler, I. N., Braver, S., & Gensheimer, L. (2000). Stress: Theory, research, and action. In J. Rappaport & E. Seidman (Eds.), *Handbook of community psychology* (pp. 187-213). New York: Kluwer.
- Sato, R. A., & Heiby, E. M. (1992). Correlates of depressive symptoms among battered women. *Journal of Family Violence, 7*(3), 229-245.
- Saunders, D. G. (1994). Posttraumatic stress symptom profiles of battered women: A comparison of survivors in two settings. *Violence and Victims, 9*(1), 31-44.
- Spanier, G. B. (1976). Measuring dyadic adjustment: New scales for assessing the quality of marriage and similar dyads. *Journal of Marriage and the Family, 38*(1), 15-28.
- Steinmetz, S. K. (1977-1978). The battered husband syndrome. *Victimology, 2*, 499-509.
- Stewart, D. E. (1994). Incidence of postpartum abuse in women with a history of abuse during pregnancy. *Canadian Medical Association Journal, 151*, 1601-1604.
- Stewart, D. E., & Cecutti, A. (1993). Physical abuse in pregnancy. *Canadian Medical Association Journal, 149*, 1257-1263.
- Straus, M. A. (1979). Measuring intrafamily conflict and violence: The Conflict Tactics (CT) Scales. *Journal of Marriage and the Family, 41*(1), 75-88.
- Straus, M. A., & Gelles, R. J. (1986). Societal change and change in family violence from 1975 to 1985 as revealed by two national surveys. *Journal of Marriage and the Family, 48*(3), 465-479.
- Straus, M. A., & Gelles, R. J. (1990). *Physical violence in American families*. New Brunswick, NJ: Transaction Publishing.
- Sutherland, C. A., Bybee, D. I., & Sullivan, C. M. (2002). Beyond bruises and broken bones: The joint effects of stress and injuries on battered women's health. *American Journal of Community Psychology, 30*(5), 609-636.
- Thoits, P. A. (1983). Dimensions of life events that influence psychological distress: An evaluation and synthesis of the literature. In H. G. Kaplan (Ed.), *Psychosocial stress: Trends in theory and research* (pp. 33-103). New York: Academic.
- Wofford, S., Elliott, D., & Menard, S. (1994). Continuities in marital violence. *Journal of Family Violence, 9*(3), 195-225.
- Woods, S. J., & Campbell, J. C. (1993). Posttraumatic stress in battered women: Does the diagnosis fit? *Issues in Mental Health Nursing, 14*, 173-186.

G. Anne Bogat is professor and director of clinical training at Michigan State University. She holds a Ph.D. in clinical psychology. Her research interests include social support, family violence, mentoring, and evaluation of prevention programs.

Alytia A. Levendosky is an associate professor at Michigan State University. She holds a Ph.D. in clinical psychology. Her research focus is family violence, particularly its effects on young children.

Sally Theran is a graduate student completing requirements for a Ph.D. in clinical psychology at Michigan State University. Her research interests include feminist theory, attachment, and domestic violence.

Alexander von Eye is a professor at Michigan State University. He holds degrees in developmental psychology and clinical psychology. His research interests include statistical theory, especially categorical analysis.

William S. Davidson II is a professor at Michigan State University. He holds a degree in clinical psychology. His research interests include domestic violence, juvenile delinquency, and advocacy programs for juvenile offenders.