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Predictors of physical assault victimization: Findings from the National Survey of Adolescents

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Abstract

Exposure to interpersonal victimization during childhood and adolescence is prevalent and has been found to be associated with negative physical and mental health outcomes. The present study examined the relations between childhood violence exposure and mental health on subsequent exposure to new physical assault in young adults using longitudinal nationally representative, prospective data from the initial (Wave I) and follow-up interviews (Wave II) of the National Survey of Adolescents (NSA). Among the 1,753 participants who completed both assessment time points, 15.8% reported a new physical assault experience at Wave II. Results indicated that racial/ethnic status, gender, history of child physical abuse, witnessed violence drug use, and family drug problems reported at Wave I were all significant predictors of new physical assault. Implications are discussed.

Keywords

risk; PTSD; physical assault; adolescence; substance use

1.0 Introduction

National studies within the United States have revealed disturbing prevalence rates of childhood victimization. Across several nationally representative studies, it has been estimated that as many as 50 to 70% of children and adolescents are exposed to some type of violence (e.g., Finkelhor, Ormrod, turner & Hamby, 2005; Kilpatrick, Acierno, Saunders, Resnick, Best, & Schnurr, 2000; Sachs-Ericsson, Blazer, Plant, & Arnow, 2005). Results from two nationally representative studies of women indicated that 2% reported childhood aggravated assault, 8% of women reported childhood rape, and 1% reported both childhood

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rape and aggravated assault (Hanson et al., 2001). Consistently, examination of lifetime prevalence of abuse among young adults has found that as many as 82% of college students report lifetime history of violence exposure (e.g., Scarpa, 2001). Research consistently indicates that violence exposure during childhood and young adulthood significantly increases risk for a variety of negative outcomes later in life (e.g., Boney-McCoy & Finkelhor, 1996; Saunders, Villeponteaux, Lipovsky, Kilpatrick & Veronen, 1992), including academic (e.g., Dyson, 1990), behavioral (e.g., Buka, Stichick, Birdthistle, & Earls, 2001; Farrell & Sullivan, 2004), physical health (Sachs-Ericsson et al., 2005; Thompson, Arias, Basile, & Desai, 2002), substance abuse (Farrell & Sullivan, 2004; Kilpatrick et al., 2000) and mental health problems, such as posttraumatic stress disorder (PTSD) and depression (e.g., Boney-McCoy & Finkelhor, 1996; Kilpatrick et al., 2000; Kilpatrick et al., 2003; Saunders, Kilpatrick, Hanson, Resnick, & Walker, 1999; Saunders et al., 1992). Furthermore, research suggests that victimization experiences often do not occur in isolation. For example, Finkelhor and colleagues (2005) reported that participants with a prior history of violence endorsed an average of three victimization incidents.

The high prevalence and deleterious consequences commonly following physical assault highlight it as an important public health concern. The identification of effective prevention and treatment programs targeting exposure to and the development of psychopathology following physical assault are needed. While effective interventions targeting the reduction of perpetration are ideal, the identification of risk factors within the individual's influence can also be targeted for risk reduction. Previous examination on perpetration of physical violence has classified risk factors into four categories: demographic, negative life experiences, behavioral, and environmental (e.g., Saner & Ellickson, 1996). Research examining risk for physical assault experiences has frequently focused on a specific type of risk factor individually. While this is helpful in the identification of possible risk factors, simultaneous examination provides the opportunity to compare the strengths of relationships and identify independent risk factors. Prior research has highlighted several potential demographic, negative life experience, behavioral, and environmental risk factors for physical assault in adolescents and young adults.

Data suggest that a child's likelihood of experiencing different forms of abuse may vary according to demographics. For example, while studies consistently report higher prevalence of sexual assault in girls and women when compared to boys and men (Finkelhor et al., 2005; Sachs-Ericsson et al., 2005), data examining gender differences in physical abuse have yielded mixed findings. Some findings support a higher frequency in girls (Sachs-Ericsson et al., 2005), others suggest that rates are higher in boys (Finkelhor et al., 2005), and others report that there are no significant differences between the sexes (Briere & Elliott, 2003; Fergusson et al., 2008). When age is examined, studies have also reported inconsistent findings, making it unclear where along the developmental trajectory from young to old age the greatest period of risk is (e.g., Briere & Elliott, 2003; Finkelhor et al., 2005). Finally, studies examining demographic and environmental characteristics suggest that environment may be more strongly associated with risk than race. For example, Hussey and colleagues (2006) reported that Hispanic, Asian, and "other" adolescents reported higher prevalence of physical assault than Caucasians. However, when other sociodemographic characteristics (e.g., parent education and SES) were controlled, Asian and Hispanic adolescents were no longer at increased risk (although the significant findings for the "other" category remained).

The growing literature on victimization indicates that exposure to violence during childhood significantly increases the risk of exposure to additional violence (e.g., Briere & Elliott, 2003; Desai, Arias, Thompson, & Basile, 2002; Kimerling, Alvarez, Pavao, Kaminski, & Baumrind, 2007; Menard, 2002; Finkelhor et al., 2005). Awareness of this association has

resulted in examination of factors that increase risk for revictimization. For example, the presence of PTSD symptoms has been highlighted as a risk factor for sexual revictimization (Acierno et al., 1999; Arata, 2000; Risser, Hetzel-Riggin, Thomsen, & McCanne, 2006). One explanation for this relationship is that PTSD interferes with the individual's perception of risk (Acierno et al., 1999; Risser et al., 2006). Individuals are proposed to have sensitivity towards threatening situations, but low specificity, which results in a decreased ability to identify threatening situations accurately. While not specifically examined as a risk factor for physical assault, the identification of PTSD as a risk factor for sexual revictimization indicates that it could increase risk for physical revictimization as well.

Research reveals that substance use, both individual and family, may also be associated with victimization. Individual drug use has emerged as a risk factor for physical assault (Acierno et al., 1999). In a Native-American sample, lifetime alcohol dependence was a strong predictor of physical assault victimization in both men and women (Yuan et al., 2006), even when prior history of physical victimization was controlled for. Individual substance use has commonly been examined as a consequence of victimization (Simpson & Miller, 2002) and a risk factor for revictimization. It is posited that substance use may decrease an individual's detection of threat and ability to identify and engage in appropriate coping skills (Gidycz et al., 2007). One study found that individuals with both PTSD symptoms and substance use had higher rates of revictimization than individuals with PTSD alone (Ullman, Townsend, Starzynski, & Long, 2006).

When familial characteristics are examined, parental substance use has been found to have a variety of negative effects on children (see Kelley et al., 2010, for a review). Specifically, parental alcoholism has been identified as a risk factor for child physical assault (Fergusson et al., 2008; Wall, Wekerle, & Bissonnette, 2000). Consistently, one prospective study found that family drug abuse predicted additional reports of maltreatment (Hamilton & Browne, 1999). Children of adults with substance use problems can be more prone to aggressive and other types of antisocial behavior (Osbourne & Berger, 2009), which may put them at a higher risk for physical assault victimization. Another reason for these relationships could be that parental substance abuse may be associated with less supervision, exposure to dangerous situations and individuals, and poor development of social and coping skills which heighten risk to the child.

Research examining risk for physical assault has predominantly focused on the examination of revictimization experiences. While these findings can help elucidate influential factors in the revictimization process, different factors or patterns of influence may emerge in individuals without trauma histories. When programs have been designed to target risk reduction generally they have often focused on sexual assault, such as the sexual assault prevention programs conducted on college campuses. The present study aims to address some of these limitations by examining risk for physical assault broadly, including individuals with and without previous trauma experiences.

The current report offers a unique opportunity to examine the relations among previously identified risk factors, including demographic (gender, race/ethnicity, age, income), negative life experience (i.e., physical and sexual abuse and witnessed violence), individual and behavioral (i.e., PTSD, substance use), and environmental (family substance use) factors, and exposure to new physical assault in young adults using longitudinal nationally representative, prospective data from the initial (Wave I) and follow-up (Wave II) interviews of the National Survey of Adolescents (NSA). The potential risk factors included in the present study were selected to replicate and expand upon prior findings. Demographic variables have commonly been examined in epidemiological studies as risk factors, with inconsistent findings. Examination in the current report will contribute to the existing

literature on this topic. The mental health and environmental variables were chosen based upon previous findings implicating them as risk factors for physical assault and for the information they could provide for treatment and prevention planning (either contributing to identification of at risk populations or by highlighting modifiable variables that could be targeted).

The current report has three goals. First, the prevalence and patterns of exposure to lifetime violence (sexual and physical assault, witnessed violence) at Wave I and exposure to new physical assault between Waves I and II will be presented. Second, the paper seeks to examine the relations among demographic variables and victimization. Finally, individual and family characteristics at Wave I will be examined as predictors of new physical assault. It was hypothesized that male, younger, and minority participants would report significantly higher levels of physical assault experiences at both time points, and that PTSD, individual substance use, and parental substance use would serve as predictors of new physical assault experiences.

The current report seeks to expand upon prior findings in several ways. First, the current report presents longitudinal data in a nationally representative sample of adolescents. Previous nationally representative samples have largely been limited by their retrospective and often cross-sectional designs. Second, the assessment of adolescents (at Wave I, young adults at Wave II) provides the opportunity to examine both individual and family characteristics as the participants are simultaneously under parental influence and developing independence. While previous studies have often examined either parental substance use in children or individual substance use in adults, the current report assesses both individual and family substance use. Third, the current report provides the opportunity to examine risk for new physical assault broadly, by including individuals with and without previous victimization experiences. Fourth, while past research has often examined physical assault in primarily female samples, the current study includes both male and female participants. Finally, the simultaneous examination of risk factors provides the opportunity to examine relative strengths of the relations.

2.0 Methods

2.1 Participants

All methods for both Wave I and Wave II interviews were approved by the Institutional Review Board of the Medical University of South Carolina. SRBI, a New York-based national survey research firm, conducted telephone interviews with participants for both waves. Wave I was conducted in 1995 and consisted of a national probability household sample of 3,161 adolescents and a central city oversample of 862 adolescents, for a full sample of 4,023 participants. The sample was weighted to conform to the 1995 census estimates for American adolescents on gender, age, and race. The sample included approximately equal numbers of male ($n = 2065$) and female ($n = 1958$) respondents. The mean age was 14.5 years old ($SD = 1.7$). With respect to race and ethnicity, 72.2% of the participants were non-Hispanic White, 15.1% were non-Hispanic African American, 8.0% were Hispanic, 3.6% were Native American, and 1.2% were Asian American. Additional details about the sample, sampling methodology, and reliability of measures are provided elsewhere (Kilpatrick et al., 2000; Kilpatrick et al., 2003). Wave II data collection occurred in 2002 – 2003. Given that the initial data collection Wave was during 1995 the assessment of our participants again 7–8 years later, a developmental span characterized high in risk, provided a sufficient time span to examine the occurrence of low frequency events such as physical assault. Notably, at both Wave I and II exposure to violence was assessed retrospectively.

The 1,753 young adults that completed both waves represented 43.5% of the original 1995 sample. Reasons for attrition across the two data waves included the following: 1,516 (66.7% of the 2,270 youth who did not participate) could not be located, 265 (11.7%) were located but were not reached or not scheduled, 449 (19.8%) refused to participate or terminated the interview, and 40 (1.8%) were deceased or had health problems that precluded their participation. In order to identify attrition bias (Miller & Wright, 1995), Wave 2 completers ($n = 1,753$) and noncompleters ($n = 2,270$) were compared with respect to selected demographic, victimization, and mental health characteristics as measured at Wave 1. A greater proportion of female (46.7%) than male (40.3%) participants were completers, $\chi^2(2, N = 4023) = 16.73, p < .001$. Non-Hispanic Caucasians (46.6%) were more likely than ethnic minorities (35.8%) to be Wave 2 completers, $\chi^2(2, N = 4,023) = 44.39, p < .001$. A greater proportion of participants who did not report rape at Wave 1 (43.8%) than those who did report rape (35.5%) were completers, $\chi^2(2, N = 4023) = 4.21, p < .05$. Similarly, participants who had not experienced a physical assault by a non-caregiver had a higher completion rate (45.2%) than those who had (35.6%), $\chi^2(2, N = 4023) = 21.525, p < .001$. There were no observed differences in attrition with regard to molestation or physically abusive punishment/physical assault by a caregiver. A greater proportion of participants without a history of PTSD were completers (44.3%) than those with PTSD (35%), $\chi^2(2, N = 4023) = 10.646, p < .001$. Further, although there was no difference related to alcohol abuse, those who admitted to drug abuse at Wave I (30.0%) were less likely to complete Wave II than those who did not report drug use (44.2%) $\chi^2(2, N = 4023) = 16.430, p < .001$.

The data presented here include the 1,753 participants who completed both Waves I and II. Male (50.2%) and female respondents (49.8%) were equally represented. The majority of the sample was Caucasian non-Hispanic (73.8%); 13.0% was African American non-Hispanic, 7.9% was Hispanic, 1.8% was Asian American, 1.0% was Native American and 2.6% was of mixed race. Wave I participants ranged in age from 12–17 (Mean = 14.66), whereas age at Wave II ranged from 18–25 (Mean = 22.12).

2.2 Procedures

A highly structured interview was conducted using computer assisted telephone interviewing technology. Participants received \$10 compensation for their time (an average of 30 minutes). In the present study, physical assault data was obtained from both waves, whereas data for all other variables were collected at Wave I.

2.3 Measures: Demographics

Standard biographical variables were assessed including gender (dichotomous, male and female), racial/ethnic status (Caucasian, African American, Hispanic, “Other”), and age (as assessed at Wave I, 6 age categories, possible ages are 12–17). Total family income at Wave I was categorized as under \$20,000, between \$20–50,000, and over \$50,000 yearly.

2.4 Measures: Individual Factors

2.4.1 Interpersonal violence exposure (Wave I)—Sexual assault, physical assault/punishment and witnessing violence history were assessed at Wave I via behaviorally specific questions to increase the likelihood of valid self-report (see Kilpatrick et al., 2000 for more detailed methodology). All interpersonal violence variables were analyzed dichotomously (a history of that victimization type endorsed versus not endorsed). Childhood physical assault/punishment (CPA) was defined as positive endorsement of any of the following items: (a) attacked or threatened with a gun, knife, or other weapon; (b) attacked by another person with perceived intent to kill or seriously injure; or (c) physically abusive punishment (i.e., spanking that left bad marks, bruises, cuts, welts, or needed

medical attention or punishment by burning, cutting, or tying up). In the present study, five questions (e.g., “Has a man or boy ever put a sexual part of his body inside your private sexual parts, inside your rear end, or inside your mouth when you didn’t want them to?”) assessed sexual assault. Events defined as sexual assault included unwanted (a) vaginal or anal penetrating by an object, finger or penis; (b) oral sex; (c) touching of the participant’s breasts or genitals; or (d) participant’s touching of another person’s genitalia; endorsement of any of the events was categorized as having an experience of child sexual abuse (CSA). Witnessing violence (WV) was defined as reporting that the participant directly observed at least one of the following events: someone being shot, stabbed, sexually assaulted, mugged, robbed or threatened with a weapon.

Physical Assault (PA; Wave II) was examined rather than physical assault/punishment, given the age of the participants at the follow-up interview. New PA reported at Wave II was defined as having been: (a) attacked or threatened with a gun, knife, or some other weapon; (b) attacked by another person with perceived intent to kill or seriously injure; (c) or beaten and injured by another person. An affirmative answer to any of these items at Wave II, with reported age of occurrence older than age at Wave I, was considered new physical assault.

2.4.2 Posttraumatic stress disorder - Past 6 months (PTSD) (Wave I)—A structured clinical interview that assesses DSM-IV criteria (see Kilpatrick et al., 2000) was used to diagnose PTSD, which was used dichotomously in analyses. Interview questions obtained information regarding both the presence (e.g., “have you had repeated bad dreams and nightmares”) and nature (e.g., “What were the dreams about?”) of the symptoms. Cronbach’s alpha for the PTSD module for the Wave I NSA sample was .87, indicating good internal consistency (Kilpatrick et al., 2003). PTSD (dichotomous, present versus absent) was defined based on DSM-IV symptom requirements (i.e., three avoidance, one intrusion, and two arousal symptoms), including functional impairment. Participants’ endorsements of items were also used to determine whether or not they met criteria for the individual symptom clusters.

2.4.3 Past year alcohol and drug abuse (Wave I)—A structured clinical interview that assesses DSM-IV criteria (see Kilpatrick et al., 2000) was used to diagnose alcohol and drug abuse. Symptoms of abuse, assessed broadly across substances, included failure to fulfill role obligations, substance use in dangerous situations, legal problems related to substance use, and continued use despite negative social consequences. Symptoms of dependence included tolerance, withdrawal, using for longer or in greater amounts than intended, unsuccessful attempts to decrease use, spending substantial time in acquiring, using, and recovering from substance use, impairment in daily functioning, and continued use despite significant consequences. Symptoms of dependence were assessed separately for alcohol and hard drug use. Cronbach’s alpha was .95 for the alcohol abuse/dependence module and .84 for the drug abuse/dependence module, indicating good internal consistency (Kilpatrick et al., 2003). *Measures: Family Factors*

2.4.4 Familial alcohol and drug problems (Wave I)—Both familial alcohol and drug problems were used dichotomously. Familial alcohol problems at Wave I were considered present if an affirmative answer was provided to the following questions: “Has anyone, either in your family or who lived with you, not counting you, drank alcohol (beer, wine) so much that it became a problem? For example, did anyone drink so much they got into fights with other people, or started to beat the kids, or couldn’t get out of bed the next day, or had difficulty holding a job?” Endorsement of familial drug problems consisted of an affirmative answer to the following question: “Has anyone, either in your family or who lived with you,

not counting you, used hard drugs, such as heroin, cocaine, speed, or uppers or downers, or have a drug problem?"

2.5 Data Analysis

Descriptive analyses were conducted to examine the prevalence of exposure to each form of violence at Wave I. A series of χ^2 analyses were conducted to determine if the prevalence of each form of violence differed by gender. Next, the intercorrelations among the variables were examined and a logistic regression predicting new physical assault was conducted. The logistic regression analysis was conducted using SUDAAN software (version 10.0) to account for complex survey design, sampling, and weighting.

3.0 Results

Unless stated, results reflect weighting of sample data on the basis of age, gender, and race estimates for the adolescent population of the United States in 1995.

3.1 Violence Exposure Prevalence and Associations with Gender

At Wave I, approximately 49% of boys and 43% of girls in the sample reported one or more types of violence exposure. Wave I physical abuse was reported by 20.1% of participants ($n=352$), sexual assault was reported by 7.6% ($n=133$), and witnessed violence was reported by 37.1% ($n=650$) of participants. Approximately 16% of the sample reported exposure to a physical assault at Wave II ($n=277$). At Wave I significantly more males than females (41.3% versus 32.8%, respectively, $\chi^2(n=1753)=13.63, p<.001$) had a history of witnessed violence, and significantly more females than males (12.3% versus 3.1%, respectively, $\chi^2(n=1753)=52.61, p<.001$) had a history of sexual assault. Wave I report of physical abuse did not differ by gender (21.6% of males and 18.6% of females, $\chi^2(n=1753)=2.44, ns$); however, more men than women reported new physical assault at Wave II (21.3% versus 10.2%, respectively, $\chi^2(n=1753)=40.83, p<.001$).

3.2 Bivariate Associations Between Victimization and Examined Risk Factors

Table 1 displays all bivariate correlations among potential risk factor variables and new assault. As can be seen in Table 1, the majority of Wave I potential risk factor variables were interrelated. Physical assault/punishment (ρ 's ranging from .11 to .19, all $p < .001$), sexual assault (ρ 's ranging from .07 to .19, all $p < .01$), and witnessing violence (ρ 's ranging from .12 to .23, all $p < .001$) at Wave I were each significantly positively correlated with all examined risk factors. The three victimization experiences at Wave I were all significantly correlated with each other (ρ 's ranging from .14 to .33, all $p < .001$). Wave I income, physical assault/punishment, sexual assault, witnessed violence, current PTSD, past year drug abuse, family drug problem, and family alcohol problem were each significantly correlated with a reported new physical assault at Wave II (ρ 's ranging from .08 to .18, all $p < .01$).

3.3 Predictors of New Physical Assault

Using a logistic regression analysis, demographic, individual, and family variables were examined as predictors of physical assault experiences occurring between Waves I and II. Table 2 presents the results of the regression. Results indicated that racial/ethnic status, gender, history of CPA at Wave I, history of WV at Wave I, history of drug use at Wave I, and family history of drug problems reported at Wave I were all significant predictors of new physical assault. Specifically, compared to Caucasians, African American participants were 2.01 (95% CI = 1.26–3.22) times more likely to have experienced a new physical assault. Males were more likely than females to report a new physical assault (OR=2.87; 95% CI = 2.04–4.06). Those reporting a CPA and WV history at Wave I were also more

likely to have a new assault (ORs=1.87 [95% CI = 1.27–2.74], 1.59 [95% CI = 1.11–2.28], respectively) compared to participants without a history of these events. The most significant risk factor for a new assault was Wave I history of drug use (OR=3.39; 95% CI = 1.68–6.82). Additionally, having a family member with a drug problem was also marginally significant in the prediction of new assault (OR=1.70, $p=.05$; 95% CI = 1.00–2.91). Age, familial income, CSA, PTSD, alcohol problems, and family alcohol problems all reported at Wave I were not associated with new physical assault.

4.0 Discussion

Utilizing a nationally representative sample of adolescents who were re-assessed as young adults, this study builds upon previous literature by examining relationships between childhood violence exposure and mental health on subsequent exposure to new physical assault over time. Specifically, we examined the relationship among early victimization (i.e., sexual assault, physical assault, and witnessed violence), PTSD, individual substance use, and familial substance use, as well as the hypotheses that these risk factors would each serve as predictors of new physical assault experiences over time. The present paper yielded two key findings, discussed in detail below. First, new onset of physical assault was endorsed by 15.8% of the sample. Second, several demographic variables (i.e., racial/ethnic status, gender) and several Wave I variables (i.e., history of CPA, childhood WV, history of drug use, history of familial drug problems) were significant predictors of new physical assault reported at Wave II. These findings confirmed previous literature supporting a link between these high risk variables (Desai et al., 2002; Farrell & Sullivan, 2004; Finkelhor et al., 2009; Hanson et al., 2008; Kilpatrick et al., 2000), while addressing limitations in the existing literature by utilizing a nationally representative sample assessed longitudinally.

Regarding demographic characteristics in relation to new physical assault, results demonstrated that males reported higher incidences of new physical assault than females, as males indicated twice as many new assaults (21.3% versus 10.2%), and additionally, being male served as a significant risk factor in the final regression model for report of new physical assault. Previous literature on new physical assaults has been mixed in regards to gender, with some studies indicating higher prevalence in males (Finkelhor et al., 2005), some in females (Sachs-Ericsson et al., 2005) and others reporting no significant gender differences (Briere & Elliott, 2003; Finkelhor et al., 2005; Hanson et al., 2008). These results suggest that further examination of gender within a nationally representative sample of adolescents is warranted, as well as the interaction effects of gender and other relevant variables, to better understand how gender plays a role in these relationships. Additionally, African American racial/ethnic status, compared to Caucasian racial/ethnic status, was associated with a higher risk of reporting new physical assault.

Examination of early victimization on later incidences of new physical assault revealed that exposure to physical assault and witnessed violence, but not to sexual assault, was related to subsequent physical assault. Findings on physical assault and witnessed violence are not surprising, given previous literature indicating that exposure to one type of violence increases risk for exposure to other types of violence (Cox, Kotch, & Everson, 2003; Hanson et al., 2008). For example, findings have suggested that exposure to one type of violence increased risk of experiencing another form of victimization within 1 year by 70% (Finkelhor et al., 2005). Not surprisingly, the different forms of victimization (i.e., physical assault, sexual assault, and witnessed violence) were all correlated with one another, which is consistent with previous literature among adolescents (Finkelhor et al., 2005, 2009; Kilpatrick et al., 2000) and young adults (Scarpa, 2001). Further, results demonstrated high associations between victimization, PTSD, individual substance use, and familial substance use at Wave 1. Sexual assault at Wave I, after controlling for other variables, did not

independently increase risk for a new physical assault. Notably, a bivariate association between sexual abuse and subsequent physical abuse was found (see Table 1), however, given the strength of the relationship between other forms of childhood abuse and subsequent physical assault, the relationship between sexual victimization did not contribute independent predictive power when entered into the regression with these other variables. This is counter to previous studies, which have demonstrated that adolescents with a history of child sexual abuse are 3–5 times more likely to suffer from incidences of subsequent sexual *or physical* revictimization than adolescents who did not report previous sexual victimization (Barnes, Noll, Putnam, & Trickett, 2009; Noll et al., 2003; Wekerle & Avgoustis, 2003). However, as stated above, the present study differs from previous studies by the inclusion of multiple victimization experiences, rather than focusing solely on one type of victimization.

The final model did not support an association between a previous diagnosis of PTSD and new incidences of physical assault, however, there was a significant univariate relationship between these variables. While results are not consistent with literature examining the link between PTSD and later sexual assault revictimization (Arata, 2000; Risser et al., 2006), findings are consistent with a previous study that found PTSD to be a significant predictor of new sexual, but not physical, assault (Acierno et al., 1999). Thus, the trajectory from PTSD and later physical assault may differ from other types of victimization or characteristics of the violence exposure. This has been found within the sexual victimization literature, as researchers have examined characteristics of revictimization and found that PTSD increases risk for certain types of new sexual assault over others (Cogle, Resnick, & Kilpatrick, 2009).

Results investigating substance use and new incidences of physical assault demonstrated a link between individual drug use and family drug problems, even after controlling for other factors. However, in the final model, individual alcohol use or family alcohol problems were not significantly independently related. Findings on individual and family drug use are consistent with literature examining relations between substance use and victimization (Hamilton & Browne, 1999; Ullman, Filipas, Townsend, & Starzynski, 2006); however, results for individual and family alcohol problems differ from previous literature (e.g., Wall et al., 2000; Yuan et al., 2006). These findings should be interpreted cautiously, as family alcohol and drug use were each assessed by single items which encompassed a range of difficulties. As alcohol use is socially acceptable at some levels, it is possible that subjective ratings of alcohol problems are less accurate (e.g., less observable or memorable) than those of drug problems. Thus, it is important for future researchers to further examine these findings among additional samples of adolescents to examine the association between substance use and new incidences of physical assault.

Limitations

Limitations within the study may reduce generalizability of the findings. First, data were self-report and retrospective in nature, which increased the likelihood of common method variance and precludes comprehensive assessment of individual and environmental variables. Second, only adolescents with household telephones were sampled, which decreases generalizability of study findings. However, it is likely this sample is representative of the great majority of adolescents across the United States, because data indicate that most households are equipped with telephone coverage (Keeter, Miller, Kohut, Groves, & Presser, 2000). Third, attrition could have influenced findings in the current study, as 43.5% of participants completed both waves of data collection and differences were found between completers and non-completers. Fourth, at Wave I we assessed physical assault and abusive punishment, and at Wave II we only assessed physical assault, and therefore, the variables are not directly comparable.

4.1 Implications for Future Research, Policy, and Practice

Results of this study have implications for the treatment of victimization among adolescents, as well as the prevention of physical assault revictimization among those exposed to multiple types of violence. First, results suggesting a strong association between early victimization and subsequent exposure to new incidences of physical assault highlight the importance of addressing the high prevalence of revictimization within existing treatment for initial violence exposure. Future research should examine if patterns of correlates differ in those with and without a childhood physical assault experience. In addition, findings support a link between additional high risk factors (i.e., PTSD, individual substance use, and familial substance use) and new physical assault exposure, which suggests that it may be important to consider these high risk behaviors when treating adolescent victimization. The field has already begun to address this association in treatment interventions, as integrated interventions that involve treatment for victimization along with prevention or treatment of high risk behaviors have been developed and evaluated, such as Seeking Safety (Najavits, Gallop, & Weiss, 1996), Trauma Systems Therapy (Saxe, Ellis, & Kaplow, 2007) and Risk Reduction through Family Therapy (RRFT; Danielson, 2006). For example, RRFT is an intervention designed for adolescents who have been exposed to sexual assault, which aims to reduce risk of high risk behaviors following victimization. Although interventions that integrate symptoms of victimization with prevention of high risk behavior are recommended, empirical data supporting the efficacy and effectiveness of recently developed approaches is limited (Danielson et al., 2006). Therefore, empirical investigations of these promising interventions are imperative to treating the correlates of adolescent victimization and thus decreasing the risk for physical assault revictimization that may occur when these additional risk factors are present.

Examination of current findings reveals that several of the examined risk factors supported by previous research were significantly correlated with new physical assault when relationships were considered independently, but were no longer significant predictors in the logistic regression. For example, current findings reveal that the significant correlation between previous sexual assault and risk for new physical assault became non-significant in the regression equation. This pattern demonstrates the importance of examining potential risk factors variables simultaneously, rather than in isolation. It is recommended that future research continue to examine risk factors simultaneously so that the strongest risk factors for violence experiences are identified and can later be implemented into prevention and treatment programs.

4.2 Conclusions

Overall, findings provide support for strong univariate associations between early victimization (i.e., sexual assault, physical assault, and witnessed violence), PTSD, individual substance use, and familial substance use, which is consistent with previous findings on high risk variables in the literature. When examining significant risk factors in the multivariate model for new physical assault experiences, results indicated that gender (i.e., males), exposure to early physical assault and witnessed violence, individual drug use, and familial drug use predicted new incidences of physical assault. These findings suggest the need for additional investigation of risk factors influencing new incidences of physical assault among young adults.

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Research Highlights

- Among a representative sample of young adults first assessed during adolescence 15.8% reported a new physical assault experience at Wave II
- Racial/ethnic status, gender, history of child physical abuse, witnessed violence, drug use, and family drug problems reported at Wave I were all significant predictors of new physical assault
- The strongest predictor of new physical assault was reported drug use at Wave I

Table 1

Bivariate associations between victimization, individual, and environmental factors reported at Wave 1, and new physical assault.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. New physical assault wave 2										
2. Age wave 1	-.01									
3. Family income wave 1	-.08***	.04								
4. Physical assault/punishment wave 1	.18***	.10***	-.09***							
5. Sexual assault wave 1	.07**	.12***	-.08**	.23***						
6. Witnessed violence wave 1	.17***	.17***	-.07**	.33***	.14***					
7. Past 6 mos. PTSD wave 1	.08**	.11***	-.02**	.19***	.19***	.15***				
8. Past yr. alcohol abuse wave 1	.04	.16***	.04	.11***	.10***	.12***	.05*			
9. Past yr. drug abuse wave 1	.15***	.11***	.01	.11***	.15***	.14***	.19***	.10***		
10. Family member alcohol problem wave 1	.12***	.09***	-.12***	.16***	.14***	.23***	.11***	.10***	.13***	
11. Family member drug problem wave 1	.11***	.06**	-.08**	.17***	.07**	.13***	.13***	.02	.17***	.26***

Note.

* $p < .05$,

** $p < .01$,

*** $p < .001$.

Table 2

Logistic Regression Results: New Physical Assault

Predictor	OR	95% CI	p-value
Wave I Age			
12	1.00	-	.06
13	1.05	0.57–1.96	
14	1.21	0.68–2.14	
15	0.68	0.37–1.24	
16	0.82	0.44–1.52	
17	0.56	0.30–1.06	
Race/Ethnicity			
Caucasian	1.00	-	.03
African American	2.02	1.26–3.22	
Hispanic	1.39	0.79–2.44	
Other	1.42	0.71–2.81	
Wave I Family Income			
<\$20,000	1.35	0.79–2.29	.43
\$20,000–\$50,000	1.37	0.84–2.21	
>\$50,000	1.00	-	
Gender			
Female	1.00	-	<.001
Male	2.87	2.04–4.06	
Wave I CSA			
No	1.00	-	.32
Yes	1.33	0.76–2.31	
Wave I CPA			
No	1.00	-	<.01
Yes	1.87	1.27–2.74	
Wave I WV			
No	1.00	-	.01
Yes	1.59	1.11–2.28	
Wave I PTSD			
No	1.00	-	.32
Yes	1.40	0.72–2.73	
Wave I Alcohol Abuse			
No	1.00	-	.61
Yes	1.22	0.56–2.64	
Wave I Drug Abuse			
No	1.00	-	<.001
Yes	3.39	1.68–6.82	
Wave I Family Alcohol Problem			
No	1.00	-	.11

Predictor	OR	95% CI	p-value
Yes	1.49	0.91–2.43	
Wave I Family Drug Problem			
No	1.00	-	.05
Yes	1.70	1.00–2.91	