



Published in final edited form as:

*J Adolesc.* 2016 October ; 52: 191–200. doi:10.1016/j.adolescence.2016.08.005.

## Adolescent stalking and risk of violence☆

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### Abstract

Stalking perpetration and the associated risk for violence among adolescents has generally been neglected. In the present study, 1236 youth completed surveys assessing empirically established stalking indicators, threats and aggression toward stalking victims, dating violence, and violent delinquency. Latent Profile Analysis identified 3 latent classes of boys: non-perpetrators (NP), hyper-intimate pursuit (HIP), and comprehensive stalking perpetrators (CSP) and, and 2 classes for girls: NP and HIP. Boys in the CSP class were the most violent youth on nearly all indices with boys in the HIP class demonstrating an intermediate level of violence compared to NP boys. Girls in the HIP class were more violent than NP girls on all indices. These findings suggest stalking in adolescence merits attention by violence prevention experts. In particular, juvenile stalking may signify youth at risk for multiple forms of violence perpetrated against multiple types of victims, not just the object of their infatuation.

### Keywords

Stalking; Youth stalking; Juvenile stalking; Violence; Dating violence; Peer violence

It is widely accepted in the literature that stalking is a public health priority with significant social, economic, physical, and psychological consequences for the victims (Breiding et al., 2014; Dressing, Kuehner, & Gass, 2006; Owens, 2016). Perhaps the most significant of these consequences, beyond the potential for post-traumatic stress, lost days of work and income, and social isolation, is the risk of violent injury and even death (Dressing et al., 2006). Thus, this phenomenon necessitates attention by public health and prevention experts. Yet, despite a vast literature addressing problems and consequences of stalking, the majority of the research has been restricted to adults and the little research with juveniles that does exist has generally been confined to case studies, small foreign based forensic samples, and anecdotal evidence (Leitz & Theriot, 2005; Roberts, Tolou-Shams, & Madera, 2016). In fact, a pervasive trend in the literature on adolescent stalking is to note the lack of literature on adolescent stalking (e.g., Evans & Meloy, 2011; Fisher et al., 2014; Leitz & Theriot, 2005; McCann, 2000a,b; Purcell, Moller, Flower, & Mullen, 2009; Purcell, Pathe, & Mullen, 2010;

☆The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

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Conflict of interest: The authors report no conflict of interest.

Roberts et al., 2016; Vaidya, Chalhoub, & Newing, 2005). In their systematic review, Roberts et al. (2016) identified only three peer-reviewed empirical studies of stalking that reported on adolescent samples (Fisher et al., 2014; Purcell et al., 2009, 2010), two of which reported on the same sample.

Fisher et al. (2014) provide population based estimates of youth stalking perpetration in the state of Kentucky reporting that 5% of high-school students had stalked someone in the preceding year. But, the authors did not assess the risk for violence associated with stalking perpetration. Purcell et al. (2009) examined 299 cases of stalking identified from archival court records of all restraining orders applications against juveniles under 18 in the Melbourne, Australia during a three year period. Of these cases, 75% of which, involved threats against the target of observation/pursuit; 54% involved physical assaults against the target; and 1.5% involved a serious sexual assault such as rape. These data would seemingly suggest adolescent stalking perpetrators represent a significant danger to their victims. However, the prevalence of such violent youth stalkers is unknowable from this targeted method of sampling from high-risk adjudicated youth. It is difficult to truly understand risk for violent outcomes among such a skewed sample as these cases may differ in important ways from cases of adolescent stalking that do not rise to the attention of the judicial system. In fact, clinical/forensic samples of stalkers are more violent compared to stalkers sampled from the general population (Spitzberg, Cupach, & Ciceraro, 2010). Thus, these violent youth stalkers may represent a minority subset of stalkers that are violent while the vast majority of youth stalkers in the general population are nonviolent. It is unknowable from these data.

In a related vein, there is considerable debate about the definitions of stalking. Fox, Nobles, and Fisher (2011) and Owens (2016) highlight the lack of consensus about what constitutes stalking among the lay public, researchers, legislators, and practitioners. Inherent problems in the attempt to define stalking include 1) whether the presence of fear by the victim is necessary and/or sufficient, 2) how many and what different forms of behavior (e.g., threatening/intimidation, surveillance, inserting self into victim's life) must be present, and 3) how frequently the stalking behaviors must occur. Moreover, as Spitzberg (2002) notes, "the difference between stalking and mere annoyingly persistent romantic pursuit is a relatively fine line and makes the definition of stalking problematic" (p. 263). This lack of coherent definition makes it difficult to distinguish stalking and to assess rates of stalking with any consistency (Owens, 2016).

Furthermore, based on what we know from adult populations, it is at least commonly agreed that there are several broad categories of behaviors (i.e., surveillance/monitoring; invasion of personal space/property; inappropriate expression of affection, etc.) that tend to co-occur to comprise stalking (Breiding, Basile, Smith, Black, & Mahendra, 2015; Meloy, 2013; Owens, 2016; Spitzberg, 2002). However, some evidence from the adult literature suggests stalking perpetrators may not be uniform and in fact there may be latent subgroups or typologies of perpetrators based on what stalking tactics are engaged in (Björklund, Häkkänen-Nyholm, Sheridan, Roberts, & Tolvanen, 2010; Hirtenlehner, Starzer, & Weber, 2012; Häkkänen, Hagelstam, & Santtila, 2003). Identifying potential typologies of stalking perpetrators is critical because distinct stalking profiles may confer distinct consequences and risk of

violence. However, included in these broadly accepted categories are intimidation/threats and aggressive behaviors (Meloy, 2013; Spitzberg, 2002). This engenders a potential problem pertaining to the lack of independence between the behaviors used to classify stalking and those that represent the potential outcomes of stalking. This essentially creates a problem of criterion contamination (Nicholls, Licht, & Pearl, 1982).

## Present study

From the limited research on youth stalking, it is as of yet unclear 1) what behavioral tactics these youth tend to most commonly employ to stalk their victims, 2) if different types of youth stalkers exist based on the tactics they use, and 3) to what extent these perpetrators represent potentially violent and dangerous youth. The goals of the present research were to identify the prevalence and manner in which youth stalking perpetration exists and the extent to which it represents a risk for violence. In doing so, we sought first to identify potential latent typologies of stalking perpetrators among an adolescent sample of boys and girls. Second, we sought to determine the relation of the potential disparate typologies to 1) violence toward the victim of the stalking, and 2) general violent delinquency toward other persons. To this end, we used latent profile analysis (LPA) to identify potential latent classes (i.e., subgroups of youth). Latent profile analysis allowed us to determine if classes exist, both based on the types of the behaviors that co-occur and the frequency of the various behaviors. Moreover, this analytic strategy allows us to determine prevalence rates of disparate forms of stalking perpetration.

Stalking perpetration was measured with 14 common behavioral stalking tactics identified in prior literature (Cupach & Spitzberg, 2000; Meloy, 2013; Spitzberg, 2002; Spitzberg, Nicastro, & Cousins, 1998) establishing several broad domains of behavior associated with stalking. However, we purposely excluded items assessing intentionally threatening or aggressive behavior as indicators of stalking during the class enumeration process. This was done to prevent criterion contamination between indicators of class assignment and violence correlates. Instead, threatening and aggressive behaviors toward the stalking target were assessed as a distal outcome and compared by class membership.

Importantly, there is reason to suspect that the rates and tactics of stalking perpetration may differ by gender. For example, Purcell et al. (2010) found that two-thirds of the sample of perpetrators were male. Fisher et al. (2014) similarly found that significantly more males (6.5%) reported stalking perpetration relative to females (4.2%). In the sample of adjudicated youth, the motives and tactics of stalking differed by gender (Purcell et al., 2010). Specifically, girls tended to be more motivated by bullying and engage in more harassing phone calls, spreading of spiteful rumors, and enlisting others to help harass the victim compared to boys. In contrast, boys were more likely to be motivated by sexual rejection and predation and engage in property damage and surveillance/loitering (Purcell et al., 2010). Fisher et al. (2014) reported that males were more likely to show up places they were not wanted. Given these findings, we conducted the LPA separately by gender to assess the potential presence of unique classes across gender.

## Methods

### Participants & procedure

These present data are the baseline data of an accelerated longitudinal study (Galbraith, Bowden, & Mander, 2014) designed to model developmental trajectories from grade 6 through 12 from data collection in 4 annual waves. Data collection occurred via paper-based questionnaires administered in schools in 2013. All 6th and 9th grade students from the 13 volunteer middle and high-schools were eligible to participate in the study. Passive consent procedures were employed in accordance with recommended ethical guidelines: parents had the opportunity to refuse consent for their child's participation by returning a written form or by calling a toll-free telephone number. A total of 3479 parental letters were mailed to the homes of all students in 6th and 9th grades in the participating schools. One-hundred twenty-one (3.4%) parental letters were returned due to insufficient or incorrect address. Ninety-four (2.7%) parents declined to allow their children to participate in the study.

After excluding these 215 students, the sample was equally stratified by grade level (6th and 9th) and gender, and community risk profile (low, moderate, and high) with random sampling within each stratum. Community risk was quantified by creating an index of publicly available data comprising rates of poverty, unemployment, percent minority, percent rental housing, percent female-headed households, and community violence. A computer-based random number generator was used to randomly select a total of 1300 students across schools. Prior to survey administration, all students provided written assent and were informed of their right to withdraw from the study at any time. A total of 64 students declined to participate resulting in a final sample of 1236 adolescents ( $M_{age} = 13.59$ ,  $SD = 1.6$ ; 52.1% Female; 66.7% Caucasian, 21.4% Black/African-American, 7.3% Hispanic/Latino, 4.6% Other). The Institutional Review Board for Wayne State University approved all procedures.

### Measures

**Demographics**—Students completed questions assessing basic demographic information including age, biological sex, and race/ethnicity.

**Stalking**—Evidence suggests that adolescents may be more likely to stalk casual acquaintances than current or prior dating partners (Fisher et al., 2014; McCann, 2000a,b; Purcell et al., 2009). For this reason, assessment of stalking behaviors in the present sample was NOT restricted to established dating partners. Rather, instructions to adolescents stated: *“People sometimes go after relationships without realizing that the other person does not want one. How often have you pursued, or has someone else pursued you, in order to start or continue a relationship that wasn't wanted. Please fill in the bubble for how many times you did each of these things IN THE PAST YEAR.”* Adolescents reported the number of times they had committed 14 identified stalking behaviors in the past 12 months on a 5-point scale ranging from “never” to “10 or more times.” The 14 stalking indicators are provided in Table 1.

**Threat and aggression toward stalking target**—Students answered 5 questions about intentionally threatening or intimidating behaviors directed at the victim of their stalking. The instructions for these items were the same instructions for the 14 stalking perpetration indicators. Items included “threatening personally to hurt them,” “restraining them or not letting them leave,” “threatening to hurt boyfriend/girlfriend, friends, family, pets, etc.,” “trying to run them off the road, displaying a weapon in front of them, using a weapon to keep them quiet,” “leaving hang-up calls, notes, letters, voice-mail, email messages where you imply you'll harm them, etc.” Adolescents endorsed how often they had committed each of the behaviors in the past 12 months on a 5-point scale ranging from “never” to “10 or more times.” Responses were averaged to create an index score. In the present sample Cronbach's  $\alpha = 0.81$ . In addition, students answered one item indicating how many times IN THE PAST YEAR they “physically hurting” a their stalking victim. The response option ranged from “never” to “10 or more times.”

**Teen dating violence**—In addition to threatening and aggressive behavior toward stalking victims, students reported on two forms of teen dating violence (TDV) perpetration. *Physical TDV*. The Safe Dates dating violence scale (Foshee et al., 1996) was used to measure physical DV perpetration. Adolescents were asked how many times they had committed a number of physical behaviors toward a dating partner “IN THE PAST YEAR.” Fifteen behaviors were listed, including having “hit or slapped,” “bit,” or “tried to choke,” “beat them up,” “hit them with something besides a fist,” “assaulted them with a knife or a gun.” Response options ranged from “never” to “10 or more times.” Responses were averaged to create an index score. In the present sample Cronbach's  $\alpha = 0.94$ . *Sexual TDV*. Respondents answered four items modified from the sexual coercion subscale of the Revised Conflict Tactics Scale (Straus, Hamby, Boney-McCoy, & Sugarman, 1996) to indicate how many times they had been a perpetrator of sexual violence against a dating partner “IN THE PAST YEAR.” Items included “made them have sex without a condom,” “insisted on sexual activity when they did not want to (but did not use force),” “used force (like hitting, holding down, or using a weapon) to make them have any sexual activity,” and “used threats to make them have any sexual activity.” Response options ranged from “never” to “10 or more times.” Responses were averaged to create an index score. In the present sample Cronbach's  $\alpha = 0.87$ .

**Violent delinquency**—Six questions from the National Youth Survey (Elliot, Huizinga, & Ageton, 1985) were used to assess six types of violent delinquency. The question stem for all items stated “About how many times did you do the following IN THE PAST YEAR?” Specific items included the following: 1) *Peer Violence*: “hit (or threatened to hit) other students;” 2) *Teacher Violence*: “hit (or threatened to hit) a teacher or other adult at school;” 3) *Physical Assault*: “Attacked someone with the idea of seriously hurting or killing him/her;” 4) *Sexual Assault*: “had (or tried) to do something sexual with someone against their will;” and 5) *Instrumental Violence*: “Used force to get money or things from other people” and 6) *Weapon Carrying*: “carried a hidden weapon.” Response options ranged from “never” to “10 or more times.”

## Data analysis

All analyses were performed with Mplus (version 7.3) controlling for clustering of data within schools. By default, Mplus utilizes full information maximum likelihood (FIML) to deal with missing data. FIML is considered superior to other methods of dealing with missing data such as multiple imputation, mean replacement, or pairwise deletion in that it is more efficient and less biased (Wang & Wang, 2012).

Latent Profile Analysis is a person-centered finite mixture modeling procedure that uses multiple continuous indicators to estimate distinct classes of behavioral patterns among respondents (Masyn, 2013). This analytic approach offers several strengths that help to obviate some of the aforementioned problems inherent to stalking measurement. First, it precludes a reliance on the presence of any specific indicator or set of indicators. Rather, this approach identifies typologies (i.e., stalking perpetrator profiles) based on adolescents' responses to items assessing specific behavioral indicators. That is, we can determine whether there are groups of perpetrators that are similar based on constellations of stalking behaviors perpetrated. Likewise, this approach removes the need to identify a prerequisite frequency (e.g., cut-score) of perpetration behaviors at which stalking is demarcated from not stalking: we can determine if classes of adolescent stalking perpetrators exist that are differentiated based on the pattern of frequency or degree of perpetration. As such, LPA is ideal because it can identify different profiles of perpetration not only based on the frequency of various behaviors, but also based on which stalking behaviors seem to co-occur (Wang & Wang, 2012).

The primary goal of LPA is to maximize the homogeneity within groups and maximize the heterogeneity between groups. Each case entered into the LPA model receives a probability of membership for each class; class assignment is made based on the highest probability. Each class yields a probability profile in which the frequency of each of the 14 stalking behaviors in each class is estimated. The number of classes is guided by theory and the use of comparative fit indices across models with sequentially increasing numbers of classes (Masyn, 2013; Nylund, Asparouhov, & Muthen, 2007; Wang & Wang, 2012). We used the Akaike Information Criteria (AIC) and sample size adjusted Bayesian Information Criterion (aBIC), the Vuong-Lo-Mendell-Rubin Likelihood Ratio Test (LMR) to determine the optimal number of classes among adolescents (Masyn, 2013; Nylund et al., 2007; Wang & Wang, 2012). The best fitting most parsimonious models are those that minimize the fit indices (AIC and aBIC) and for which adding an additional class leads to a worsening of fit as indicated by the LMR.

In addition to the enumeration process, we report relative entropy values and average posterior probabilities (APPs). The APPs provide class-specific measures of how well the set of indicators predict class membership in the sample. Values above 0.70 suggest that the latent classes are well separated and class assignment accuracy is adequate (Masyn, 2013; Wang & Wang, 2012). Entropy is essentially a summary index that indicates the model's relative precision in classifying all individuals in the sample across classes. Values nearest to 1 indicate the best classification with values above 0.80 considered to be high entropy (Masyn, 2013; Wang & Wang, 2012). Because classification error may increase by chance

alone for models with more latent classes, one should not use this parameter as part of the model selection process during class enumeration (Masyn, 2013). However, low entropy values do indicate a great deal of classification error and suggest that such solutions may not be useful.

Our analysis was conducted in two stages. In the first stage, we identified the number of latent classes of stalking perpetration using LPA. In the second stage of analysis, we tested the association between the latent categorical variable (i.e., class membership) and mean levels of perpetration of violent delinquency, dating violence, and threatening and aggressive behavior toward the stalking victims. Additionally, we compared classes on mean age level. We used the automatic version of the modified BCH 3-step method (Asparouhov & Muthén, 2015; Vermunt, 2010) to compare mean levels of these violence related covariates within each class as it is the method most robust to violations of normality assumptions (Baak & Vermunt, 2015). This method accounts for classification error in the class assignment via weighting to adjust bias in standard errors and associated parameter estimates accordingly (Baak & Vermunt, 2015; Vermunt, 2010). Omnibus  $\chi^2$  with  $C - 1$  *df* and pairwise contrasts  $\chi^2$  with 1 *df* are provided for each of the violence related correlates. Cohen's *D*s were computed from  $\chi^2$  contrast values and sample sizes as a measure of effect size for mean differences between classes.

## Results

### Class enumeration for boys

The class enumeration process indicated that fit indices (AIC and aBIC) continued to drop as we progressed from 2 to 4 classes; however, the LMR became nonsignificant when adding a 4th class (see Table 2). Additionally, visual inspection of the class plots indicated that adding a 4th class did not add substantively to interpretation and reflected minute differences in the frequency of behavior rather than significant differences in the kind of behaviors in each class. Hence, we determined that the most parsimonious model was a 3 class solution for boys stalking perpetration (see Fig. 1). Entropy for the 3 class solution was excellent (0.92) as were the APPs (Class 1 = 0.99, Class 2 = 0.96; Class 3 = 0.97) indicating a high degree of precision in classifying boys into their respective classes.

The largest class containing more than half of all boys ( $n = 351$ ) comprised youth reporting little to no stalking indicators and, thus, were dubbed the non-perpetrator (NP) class. The next largest class ( $n = 175$ ) was composed of youth reporting slight elevations on all stalking indicators. The most prominent behaviors, indicators 2 and 3, were those associated with what Spitzberg (2002) describes as 'hyper-intimacy,' which involves unwarranted expressions of affection and attempts to ingratiate themselves with the stalking target. Members of this class reported engaging in all other indicators on average one time or less. Thus, we deemed this class the hyper-intimate pursuit (HIP) class. The final and smallest class, comprising approximately 6% of boys ( $n = 36$ ), reported significant elevations on all 14 stalking indicators. This class was dubbed the comprehensive stalking perpetrator (CSP) class. See Fig. 1 for profile plots of all 3 classes.

### Class enumeration for girls

The class enumeration process indicated that fit indices (AIC and aBIC) continuously dropped from 2 to 4 classes (see Table 2). However, the LMR was only significant for 2 classes and visual inspection of profile plots confirmed that the addition of a 3rd or 4th class did not add substantively to interpretation. Therefore, we determined the most parsimonious and informative model was a 2 class solution for girls stalking perpetration (see Fig. 2). Entropy for the 2 class solution was 0.93 and the APPs for Classes 1 and 2 were 0.97 and 0.99, respectively, again suggesting a high degree of precision in classifying adolescents.

The largest class, comprising three quarters of the girls ( $n = 477$ ), was the NP class composed of girls endorsing little to no stalking behavior on all indicators. The second class ( $n = 143$ ), resembled the HIP class identified among boys. The most frequent behaviors endorsed were the hyper-intimacy behaviors (indicators 1, 2, & 3) which involved attempts at contact, unwarranted expressions of affection and attempts to ingratiate themselves with their victim. The rest of behaviors occurred on average less than one time in this class. Thus we identified this class of girls as the HIP class.

### Class membership and violence

In the second stage of the analysis, we tested mean differences among each of the classes on violence correlates. Tables 3 and 4 present means, standard errors, omnibus significance tests, pairwise significance tests, and standardized effect sizes for boys and girls, respectively. Girls in the HIP class reported more perpetration of all types of violence compared to girls in the NP class. Of note, most effect sizes for mean differences were small but there was a moderate effect for threat/intimidation toward stalking victim and a large effect for peer violence.

When examining differences among the boys' classes, youth in the CSP class reported more violence perpetration for all forms of violence except for teacher violence, sexual TDV, and sexual assault compared to boys in the non-perpetrator class. Compared to boys in the HIP class, comprehensive perpetrators reported more threatening and physically harmful behavior toward the stalking object, physical TDV, physical assaults, and instrumental violence. Boys in the HIP perpetration class reported more threatening and aggressive behavior toward the target of their pursuit, more instances of peer violence, and weapon carrying compared to non-perpetrator boys. The effect sizes for mean differences were generally small with the exception of threatening/intimidation of stalking victim, physical harm to the stalking victim, and physical TDV which ranged from moderate to large.

### Post-hoc analyses

Given that we identified a similar class among girls and boys (i.e., HIP) but the associations of these classes with violence correlates appeared to differ somewhat across sexes, we compared the HIP girls to both HIP and CSP boys on violence correlates (see Table 5). HIP girls were more violent than HIP boys in terms threats/intimidation and physical harm to stalking victims, physical and sexual dating violence, and sexual assault but less violent than CSP boys on these correlates. HIP girls and boys were comparable on physical assaults and



instrumental violence, but HIP girls reported less weaponing carrying than both classes of boys.

## Discussion

The goals of the present research were to 1) identify potential latent subgroups of adolescents that perpetrate stalking and 2) assess the association of membership in disparate stalking perpetration classes with violence correlates. Latent Profile Analysis indicated the presence of a majority class of non-perpetrating (NP) youth among both boys and girls. Additionally, a class was identified among boys and girls that we deemed the hyper-intimate pursuit (HIP) class. Inspection of Figs. 1 and 2 reveals that across the two sexes, this class was marked by elevations in indicators related to hyper-intimacy, or, those behaviors involving unwarranted (and unwanted) expressions of affection, attempts to make contact with the stalking target, and attempts to ingratiate themselves with the stalking target (Spitzberg, 2002).

Among boys, we identified a third class of youth not identified among girls that we deemed comprehensive stalking perpetrators (CSP) in that they reported elevated frequencies on all 14 stalking indicators. This group was distinguished from the other groups based on the frequency of *all* behaviors and not by constellations of particular behaviors, see Fig. 1. The lack of perpetrator class among girls relative to boys is generally consistent with adult and adolescent literature indicating that males are more likely to stalk (Roberts et al., 2016; Spitzberg et al., 2010). It is difficult to compare prevalence rates of perpetrators with estimates from adult samples as the majority of studies use convenience samples of college students focusing directly on intimate partners (Spitzberg et al., 2010). Nonetheless, a meta-analysis of these studies indicates that 12% of women and 23% of men have stalked a current or former intimate partner (Spitzberg et al., 2010). Of course, these rates are markedly higher than the 0% of female and 6.4% of male perpetrators identified in our sample. However, this is not surprising as we would expect rates to increase with age as youth accumulate more interpersonal experiences and develop new relationships. Notably, the rates of male stalkers identified in Fisher et al. (2014) is very similar to the rate of stalking perpetrators (i.e., CSP youth) in our sample (6.5% and 6.4% respectively). Interestingly, evidence from criminological literature has long indicated that approximately 5%—6% of youth commit the majority of violence, particularly the most severe violence (Tracy, Wolfgang, & Figlio, 1990; Vaughn, Salas-Wright, Delisi, & Maynard, 2014; Wolfgang, Figlio, & Sellin, 1972). Given the striking correspondence between stalking perpetration rates in our and Fisher et al.'s sample, one must wonder if these youth stalking perpetrators are the “severe 5%” that commit a majority of society's violence (Vaughn & DeLisi, 2008).

While Fisher et al. (2014) did not assess violence in their study, a major goal of the present research was to determine if adolescent stalkers represent a risk to the objects of their pursuit as well as a risk for violence in general. Findings indicate boys in the CSP class, compared to their peers in the HIP class, were significantly more likely to explicitly threaten/intimidate and physically hurt their stalking victim. Additionally, CSP youth reported more instances of physical dating violence, physical assault, and instrumental violence than youth from either

of the other two classes. Moreover, CSP youth reported more peer violence and weapon carrying than non-perpetrators; however, not more so than boys in the HIP class. Findings pertaining to instrumental violence and weapon carrying are particularly notable as youth (and adults) engaging in these forms of violence tend to evince psychopathic traits (Reidy, Shelley-Tremblay, & Lilienfeld, 2011, 2015). This is notable because youth that demonstrate these traits and forms of violence tend to be persistent and severe offenders, require greater resources for treatment needs, and may require unique targeted strategies starting at an early age (Reidy et al., 2015). Pertinently, evidence suggests that the “severe 5%” may be the same youth evincing traits of psychopathy and career criminality (Vaughn & DeLisi, 2008).

The findings pertaining to violence have significant implications for criminal justice system and prevention researchers. Owens (2016) notes, most states require fear as necessary component to meet their definition of stalking. However, fear is a poor marker of what constitutes legitimate stalking and its risk of violence (Spitzberg, in press). Furthermore, our findings suggest that fear is irrelevant. Our data indicate youth who stalk are youth who are violent. Hence, regardless of whether the object of pursuit expresses fear, they are at risk of violent victimization. Thus, early identification of adolescent stalkers may have practical applications for the prevention of multiple forms of violence and associated adverse health outcomes.

It may seem surprising that there were not significant differences among CSP, HIP, and NP classes on either sexual violence outcome. One might expect that stalking perpetrators would be motivated by sexually desire and would therefore be more likely to engage in sexual violence against a dating partner or acquaintance. For example, McCann (2000a,b) reported that among his 13 youth stalkers the primary motive was desire for intimacy and sexual contact. Yet, Purcell et al. (2010) found intimacy seeking and sexual predation were the least likely motives for stalking and the majority of stalkers in Fisher et al.'s (2014) sample were previous non-intimate acquaintances. Relatedly, a meta-analysis of adult samples indicated only 12% of stalking cases involved sexual violence (Spitzberg & Cupach, 2007). These findings seem to highlight that stalking is not a phenomenon solely driven by desires for an intimate or sexual relationship.

It should be noted that although differences for sexual violence correlates were not significantly different in the present sample, there was a trend (i.e.,  $p's < 0.08$ ) for both correlates wherein CSP boys reported more sexual violence than HIP and NP boys. It also bears mentioning that girls in the HIP class reported significantly more sexual violence than NP girls, although we don't know if this violence was toward the object of their pursuit. In fact, a striking finding was that girls in the HIP class perpetrated more of every violence outcome compared to girls in the NP class. Moreover, HIP girls appear to represent a middle-ground of risk for violence between HIP and CSP boys. HIP girls perpetrated more violence toward stalking victims and dating partners and committed more sexual assaults than HIP boys, but less so than CSP boys. As such, it may be a mistake to dismiss these youth as harmless ineffectual romantic suitors. Admittedly, we did not assess the severity of violence in terms of impact (e.g., injury). It is possible that the severity of violence perpetrated by HIP girls is far less than that of HIP and CSP boys. Indeed, both groups of

boys reported significantly more weapon carrying than girls. Weapon use is strongly connected to risk for injury.

The present study is limited in that we did not assess motives for stalking or the relationship between stalker and victim. Understanding these associations may further augment our ability to detect different classes of perpetrators and understand who will be violent and for what reasons. Moreover, understanding the motives for stalking will help us develop prevention strategies. Importantly, these data are cross-sectional and would be bolstered by longitudinal data demonstrating the potential developmental trajectories of perpetrators from adolescence into adulthood. It is unclear if youth classified as perpetrators would persist or may naturally desist from their problematic behavior. Likewise, longitudinal data may help explicate the association between stalking and TDV. Theriot (2008) points out that the association of stalking and dating violence among adolescents is often ignored, perhaps because compared to adults, adolescents are less likely to stalk dating/intimate partners (Fisher et al., 2014; Purcell et al., 2010). Thus, the current data do not speak to how stalking of a peer may evolve into dating violence. It may also be important for future research to incorporate assessment of cyberstalking behaviors (Tjaden, 2014), particularly when measuring stalking among adolescent populations. Additionally, it may be fruitful to incorporate the assessment of the stalking duration into future research attempting to classify youth. Purcell et al. (2009) reported a very wide range of 16 days to 6 years with a median of 120 days in their sample. Assessing not only the frequency of behaviors, but also the duration of the stalking, may be fruitful for identifying and classifying youth at greatest risk of violence. And, of course, these findings require replication, especially in larger nationally representative samples. Considering the ease with which these behaviors can be assessed via self-report, and the degree to which they are pertinent to other health and dating related behaviors, assessment of stalking could ideally be incorporated into extant research and surveillance systems for youth populations. Rates of stalking among adults are currently estimated via several surveillance systems (Breiding et al., 2014; Owens, 2016), but there are, to our knowledge, no rigorous assessments of youth stalking in national probability sample surveys.

Despite these limitations, this research adds to the nascent literature about juvenile stalking. Overall, the findings suggest that stalking perpetration among adolescents occurs and represents a significant concern. These youth reflect a potential danger not only to the object of their pursuit, but numerous others. Adolescent stalkers are more likely to perpetrate potentially severe forms of violence including serious physical assault, instrumental violence, and weapon use. This is notable because youth that demonstrate these forms of violence tend to be persistent and severe offenders that display psychopathic traits, commit a disproportionate amount of violence, require greater resources for treatment needs, and may require unique targeted strategies starting at an early age (Reidy et al., 2015). Ultimately, the present data seemingly indicate that adolescent stalking is a public health problem much the same as stalking in adult populations (Breiding et al., 2014). Consequently, stalking perpetration among adolescents necessitates attention from prevention experts to build a research base that may inform the development of prevention strategies. Overall, our findings on the association of stalking and violence would seem to suggest prevention strategies should not focus solely on preventing stalking, but rather, focus on identifying the

common underlying etiological factors that predisposes these youth to violence across contexts and victims.

## Acknowledgments

This work was funded by the Centers for Disease Control and Prevention, Cooperative Agreement #1U01CE002115-01.

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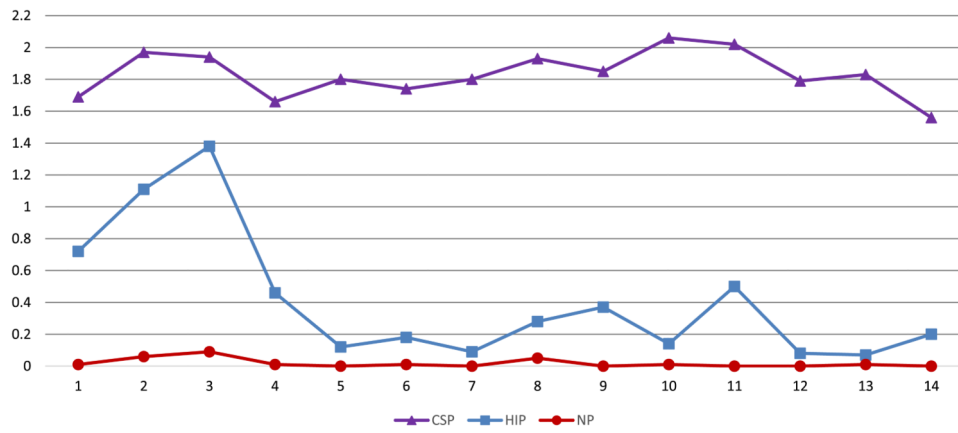
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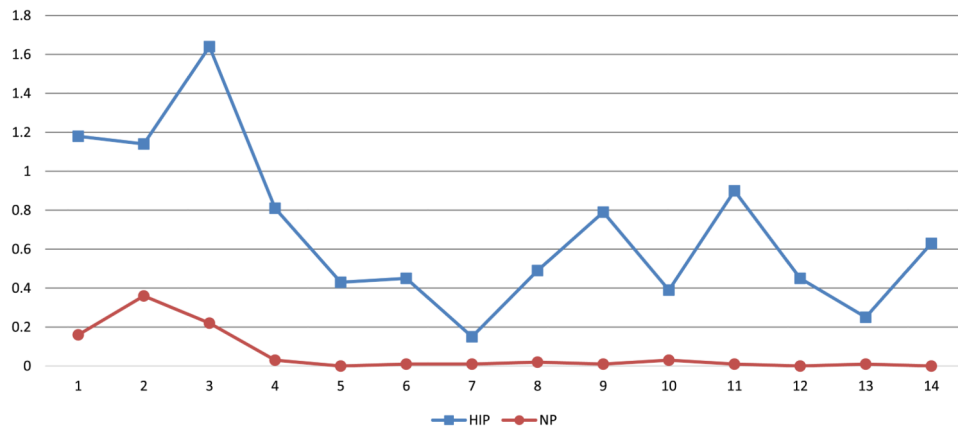
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**Fig. 1.**

Latent class profiles of stalking indicators for boys.

**Note.** Values on the X Axis correspond with stalking indicators listed in Table 1. Values on the Y Axis represent average values of stalking indicator frequency: 0 = Never; 1 = Only Once; 2 = 2–4 times; 3 = 5–9 times; 4 = 10+ times. CSP = Comprehensive Perpetrator Class; HIP = Hyper-Intimate Pursuit Class; NP = Non-Perpetrator Class.



**Fig. 2.**

Latent class profiles of stalking indicators for girls.

**Note.** Values on the X Axis correspond with stalking indicators listed in Table 1. Values on the Y Axis represent average values of stalking indicator frequency: 0 = Never; 1 = OnlyOnce; 2 = 2-4times; 3 = 5-9 times; 4= 10+times. HIP = Hyper-Intimate Pursuit Class; NP= Non-Perpetrator Class.



**Table 1**

## Stalking perpetration indicators.

- 
1. Leaving unwanted messages (voice-mails, texts etc.)?
  2. Saying "I love you" after only a short time together?
  3. Doing favors they didn't ask for?
  4. Following them around?
  5. Watching them (ex. following them to work, watching where they go)?
  6. Getting too close to them physically, touching them when they don't want to be touched?
  7. Invading their personal property (breaking into home, their room/car etc.)?
  8. Trying to be friends with their friends, get to know their family without invitation?
  9. Checking up on them constantly (ex. calling all the time)?
  10. Showing up at places you knew they'd be without being invited?
  11. Listen to their messages, reading their e-mail etc.?
  12. Spreading false rumors about them?
  13. Stealing or damaging their personal things?
  14. Taking photographs of them without their knowledge?
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**Table 2**

Diagnostic indices for latent class enumeration & class sizes.

	Classes	AIC	aBIC	LMR $\alpha$	Entropy	Class	N	%
Boys	2	7982	8016	0.05	0.95	CSP	36	6.4
	3	7300	7351	0.01	0.92	HIP	175	31.1
	4	7098	7166	0.60	0.90	NP	351	62.5
Girls	2	7819	7855	0.001	0.93	HIP	143	23.1
	3	7534	7589	0.26	0.90	NP	477	76.9
	4	7361	7435	0.63	0.87			

**Note.** AIC = Akaike Information Criteria; aBIC = Sample Size Adjusted Bayesian Information Criteria; LMR  $\alpha$  = Lo-Mendell-Rubin Likelihood Test significance level; CSP = Comprehensive Stalking Perpetrator Class; HIP = Hyper-Intimate Pursuit Class; NP = Non-Perpetrator Class.

**Table 3**

Means, standard errors, and mean comparisons of correlates by class for boys.

	CSP		HIP		NP		Omnibus test $\chi^2$	CSP vs. HIP $\chi^2$		CSP vs. NP $\chi^2$		HIP vs. NP $\chi^2$		<i>d</i>
	<i>M</i>	S.E.	<i>M</i>	S.E.	<i>M</i>	S.E.		<i>d</i>	$\chi^2$	<i>d</i>	$\chi^2$	<i>d</i>	$\chi^2$	
Age	14.14	0.43	13.79	0.36	13.56	0.38	5.52 <sup>†</sup>	1.18	<b>0.15</b>	2.70	<b>0.17</b>	4.99*	<b>0.20</b>	
Threat/intimidation	1.37	0.22	0.07	0.01	0.01	0.00	69.47***	34.27***	<b>0.86</b>	38.41***	<b>0.67</b>	20.30***	<b>0.45</b>	
Physically hurt	0.95	0.16	0.19	0.04	0.05	0.02	32.54***	22.28***	<b>0.68</b>	29.76***	<b>0.58</b>	8.91**	<b>0.29</b>	
Physical TDV	0.89	0.13	0.15	0.04	0.14	0.03	41.52***	25.50***	<b>0.73</b>	36.21***	<b>0.64</b>	0.07	<b>0.03</b>	
Sexual TDV	0.45	0.24	0.03	0.01	0.03	0.01	5.98*	2.95 <sup>†</sup>	<b>0.23</b>	3.23 <sup>†</sup>	<b>0.18</b>	0.18	<b>0.04</b>	
Peer violence	1.44	0.24	1.07	0.16	0.47	0.08	39.83***	1.49	<b>0.17</b>	16.38***	<b>0.42</b>	16.00***	<b>0.40</b>	
Teacher violence	0.26	0.15	0.08	0.04	0.02	0.01	3.44	1.70	<b>0.18</b>	2.67	<b>0.17</b>	1.58	<b>0.12</b>	
Weapon	0.80	0.21	0.41	0.08	0.22	0.08	8.19*	2.10	<b>0.20</b>	2.94*	<b>0.18</b>	4.04*	<b>0.20</b>	
Assault	0.69	0.18	0.16	0.05	0.11	0.03	11.89**	7.77**	<b>0.38</b>	10.25***	<b>0.33</b>	1.26	<b>0.11</b>	
Sexual assault	0.26	0.15	0.01	0.01	0.02	0.01	4.35	2.92 <sup>†</sup>	<b>0.23</b>	2.49	<b>0.16</b>	0.26	<b>0.05</b>	
Instrumental violence	0.66	0.26	0.02	0.02	0.02	0.01	6.65*	5.76*	<b>0.33</b>	5.99**	<b>0.25</b>	0.18	<b>0.04</b>	

Note. *M* = Mean, S.E. = Standard Error; *d* = Cohen's *d*; CSP = Comprehensive Stalking Perpetrator Class; HIP = Hyper-Intimate Pursuit Class; NP = Non-Perpetrator Class;

<sup>†</sup> = *p* < 0.10;

\* = *p* < 0.05;

\*\* = *p* < 0.01;

\*\*\* = *p* < 0.001.

**Table 4**

Means, standard errors, and mean comparisons of correlates by class for girls.

	HIP		NP		HIP vs. NP		$\chi^2$	<i>d</i>
	<i>M</i>	S.E.	<i>M</i>	S.E.	<i>M</i>	S.E.		
Age	14.15	0.33	13.40	0.42	14.37	***	<b>0.31</b>	
Threat/intimidation	0.29	0.04	0.00	0.00	46.73	***	<b>0.57</b>	
Physically hurt	0.40	0.09	0.02	0.01	17.12	***	<b>0.34</b>	
Physical TDV	0.42	0.11	0.08	0.01	11.83	***	<b>0.28</b>	
Sexual TDV	0.12	0.03	0.01	0.00	9.64	***	<b>0.25</b>	
Peer violence	1.10	0.10	0.40	0.09	89.64	***	<b>0.82</b>	
Teacher violence	0.12	0.04	0.03	0.01	4.61	*	<b>0.17</b>	
Weapon	0.12	0.03	0.04	0.02	5.73	*	<b>0.19</b>	
Assault	0.23	0.04	0.09	0.04	17.20	***	<b>0.34</b>	
Sexual assault	0.10	0.03	0.00	0.00	9.14	***	<b>0.24</b>	
Instrumental violence	0.07	0.03	0.01	0.01	5.97	**	<b>0.20</b>	

Note. *M* = Mean, S.E. = Standard Error; *d* = Cohen's *d*; HIP = Hyper-Intimate Pursuit Class; NP = Non-Perpetrator Class;

\* =  $p < 0.05$ ;

\*\* =  $p < 0.01$ ;

\*\*\* =  $p < 0.001$ .

**Table 5**

Comparisons of HIP girls to CSP and HIP boys on violence correlates.

Violence	HIP girls vs. HIP boys <sup>a</sup>				HIP girls vs. CSP boys <sup>b</sup>			
	<i>t</i>	SE <sub>diff</sub>	<i>d</i>	Violence	<i>t</i>	SE <sub>diff</sub>	<i>d</i>	Violence
Age	0.72	0.05	0.08	Age	0.45	0.69	0.07	
Threat/intimidation	5.82	0.04	0.65***	Threat/intimidation	7.97	0.14	1.20***	
Physically hurt	2.27	0.09	0.26*	Physically hurt	2.80	0.2	0.42***	
Physical TDV	2.48	0.11	0.28**	Physical TDV	2.05	0.23	0.31*	
Sexual TDV	3.07	0.03	0.35***	Sexual TDV	2.47	0.13	0.37**	
Peer violence	0.15	0.20	0.02	Peer violence	1.46	0.23	0.22	
Teacher violence	0.70	0.06	0.08	Teacher violence	1.28	0.11	0.19	
Weapon	3.13	0.09	0.35***	Weapon	5.65	0.12	0.85***	
Assault	1.06	0.07	0.06	Assault	3.83	0.12	0.58***	
Sexual assault	3.07	0.03	0.35***	Sexual assault	1.67	0.10	0.25 <sup>†</sup>	
Instrumental violence	1.43	0.04	0.16	Instrumental violence	4.14	0.14	0.62***	

Note.

<sup>a</sup> = 316 degrees of freedom;

<sup>b</sup> = 177 degrees of freedom; CSP = Comprehensive Stalking Perpetrator Class; HIP = Hyper-Intimate Pursuit Class; SE<sub>diff</sub> = standard error of the difference; *d* = Cohen's *d*;

<sup>†</sup> =  $p < 0.10$ ;

\* =  $p < 0.05$ ;

\*\* =  $p < 0.01$ ;

\*\*\* =  $p < 0.005$ .