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Juveniles and Cyber Stalking in the United States: An Analysis of Theoretical Predictors of Patterns of Online Perpetration

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Abstract
The purpose of the present study is to contribute to the gap within the literature by investigating the cyber stalking behaviors of adolescents under the age of 18, and examine the predictors of these behaviors. In order to better understand the predictors of cyber stalking behaviors in young people, we will be utilizing two criminological theories: General Theory of Crime and Social Learning Theory. Using data collected from high school students in a rural county in western North Carolina, United States, results indicated that low self-control and deviant peer association were in fact associated with cyber stalking behaviors of juveniles.

Keywords: Cyber stalking, Cyber crime, Self-Control, Peer Association.

Introduction
Physical stalking involves one individual repeatedly intruding on another in a manner that produces fear or distress (McEwan, Mullen, MacKenzie, & Ogloff, 2009). This can entail the unwanted monitoring of a person, continuous communication, showing up at victims’ homes or workplaces without invitation, and other forms of intimidating behavior. Harassment is also considered behavior that annoys or distresses the victim. The
level of stress, fear and disturbance experienced by the victim is considered when determining if a person is being harassed or stalked (Turmanis & Brown, 2006). It is best to use the terms interchangeably, as a clear distinction of what behaviors should be labeled as harassment or stalking is often difficult to discern (Sheridan & Grant, 2007; Spitzberg & Hoobler, 2002).

The term cyber stalking refers to stalking in an electronic format. With the anonymity, ease, and efficiency of the Internet, cyber stalking can occur in a multitude of ways. Cyber stalkers can use personal information about the victim to threaten or intimidate the victim. Cyber stalkers can also send unwanted, repetitious emails or instant messages that may be hostile threatening in nature. Cyber stalkers can also impersonate their victims online by stealing login information for an email account or social networking page and posting messages on other peers’ pages (Sheridan & Grant, 2007).

There is a division amongst researchers as to whether cyber stalking is a social problem (Bocij, 2004). McGrath and Casey (2002) and Spitzberg and Hoobler (2002) asserted the importance of researching cyber stalking as he believed it to be a gateway behavior leading to stalking in the physical realm. The anonymous availability of the Internet can result in a low-risk victim becoming a high-risk victim (McGrath & Casey, 2002). There is potential for offenders to become more comfortable with stalking a victim online and move to the physical realm for potentially more threatening forms of stalking.

Internet users of a wide age range have reported being victimized by a cyber stalker with adolescents particularly being susceptible to the behavior (Alexy, Burgess, Baker, & Smoyak, 2005; Finn, 2004; Fisher, Cullen, & Turner, 2000; Marcum et al., 2010, 2011). The Youth Internet Safety Survey (YISS), a nationally representative study of 10 to 17 year olds, has researched youth Internet victimization and involvement for multiple years. After two administrations of the YISS, the percentage of youth who reported online harassment grew from 6% to 9% between 2001 and 2006 (Wolak, Mitchell & Finkelhor, 2006; Mitchell, Finkelor, & Wolak, 2006). Adults, on the other hand, are not exempt from experiencing various forms of cyber stalking. For example, the Cyber-Obsessional Pursuit scale was used to measure stalking and harassment online and determined that 18% of respondents confirmed that someone had obsessively communicated with them in a sexually harassing way, while 3% had threatened them (Spitzburg & Hoobler, 2002). Undergraduates also experience cyber stalking, generally reported by five to 15% of the student population (Alexy, Burgess, Baker & Smoyak, 2005; Finn, 2004; Fisher, Cullen & Turner, 2000; Marcum, 2010; Marcum, Higgins & Ricketts, 2010). Of those who report cyber stalking, the most popular means of unwanted communication is via email (Marcum et al., 2010, 2011).

Not surprisingly, females are more likely than males to be the victims of cyber stalking. This crime characteristic mirrors the demographic qualities of victims of traditional stalking. Unlike physical stalking, cyber stalking is perpetrated less by ex-intimate partners and more by acquaintances or strangers (Bocij, 2004; Sheridan & Grant, 2007). Motivations of cyber stalkers can be grouped into two categories: technological and social factors (Bocij, 2004). Technological factors allow for easier deceptive practices online, including easy access to technology including the Internet. Social factors, such as the anonymity available online and the perpetrator’s perception of possessing power and control over the victim, are the factors that can increase the likelihood someone will participate in this form of deviancy. It is often difficult for law enforcement to investigate and combat cyber crime online, including cyber stalking, due to the anonymity of the
offenders; therefore, it makes it easier for a person to commit and be victimized in this manner.

The effects of cyber stalking can be damaging to a multitude of individuals. Victims can experience multiple reactions due to cyber stalking, such as powerlessness, shame, feelings of isolation, and anxiety/depression. Further, victims may resort to substance abuse to deal with these feelings (Ashcroft, 2001; Blauuw, Winkel, Arensman, Sheridan, & Freeve, 2002). These negative reactions to the cyber stalking can in turn affect family and friends of the victim. In order to better understand the predictors of this behavior in adolescents, we will be utilizing two criminological theories: General Theory of Crime and Social Learning Theory.

Gottfredson and Hirschi (1990) argued that individuals are more likely to develop low self-control if they are exposed to ineffective parenting, including lack of emotional bonds, poor monitoring, and inconsistent or ineffective discipline (Gibbs, Giever, & Higgins, 2003). Low self-control includes the inability to resist temptation when an opportunity presents itself as when the perpetrator does not consider the long-term consequences of their behavior. Individuals with low self-control are characterized as impulsive, insensitive, risk-taking, and attracted to tasks that do not require much thought or effort (DeLisi, 2001). This theory has been especially effective in explaining various types of cyber crime including digital piracy such as downloading illegally obtained music (Higgins, Wolfe, & Marcum, 2008; Hinduja & Ingram, 2008), movie piracy (Higgins & Wilson, 2006; Higgins, Fell & Wilson, 2007), and software piracy (Moon, McCluskey, & McCluskey, 2010). In addition, research has also indicated that individuals with lower levels of self-control gravitate toward deviant peer groups offline (Chapple, 2005; Longshore, Chang, Hsieh, & Messina, 2004) and online (Higgins & Wilson, 2006; Wolfe & Higgins, 2009). A few studies have even tested General Theory of Crime as a theoretical explanation for hacking behaviors online (Bossler & Burruss, 2011; Holt, Bossler & May, 2012).

The next applicable theory is Social Learning Theory. Akers (1998) asserted with Social Learning Theory that crime is a learned behavior based on differential association of definitions favorable to breaking the law, as defined by Sutherland (1947). Definitions refer to an individual’s attitudes toward a behavior, including the techniques, rationalization, and drive to perform a behavior. Imitation of this behavior refers to witnessing someone else perform a behavior and emulating the behavior. Lastly, reinforcement refers to the anticipated and actual rewards of participation in the behavior, as well as the punishments that may promote the initiation and continuation of a behavior (Higgins & Marcum, 2011). Multiple studies have shown support for Social Learning Theory to explain cyber crime (Bossler & Burruss, 2011; Higgins, Fell & Wilson, 2007; Higgins, Wolfe, & Marcum, 2008; Hinduja & Ingram, 2008; Holt, Burruss, & Bossler, 2010; Ingram & Hinduja, 2008; Morris & Higgins, 2010).

Present Study

Research has consistently indicated that individuals under the age of 18 are not only those who are most likely to be cyber victimized in multiple ways, but also have a higher likelihood of perpetrating these types of crimes (Marcum et al., 2010, 2011). Furthermore, there is still a gap in the literature that provides explanation of theoretical predictors for this behavior for this age group. The purpose of this study is provide a clearer picture of the amount of adolescents who are participating in the cyber stalking, as
well as the predictors of such behaviors. We will be examining a sample on the younger end of the adolescent age range: high school students.

**Methodology**

**Research Design**

A rural county in western North Carolina, United States, was chosen to participate in the study. Principals of four high schools in this county agreed to participate. All 9th through 12th graders in the school were recruited for the study. First, a consent form was sent home two weeks prior to the administration of the survey to the parents of all the students with the information pertaining to the study. If parents did not wish their children to participate, the form was signed and returned to the school with the name of their child. At the time of survey administration, all children able to participate were given the survey with an assent form attached. Respondents were able to withdraw from participation at any time. In all, 1,669 high school students were invited to participate and 1,617 surveys were completed, a 96.8% response rate. The procedure was approved by one of the research team member’s university IRB.

**Measures**

The measures for this study include items from stalking, low self-control, deviant peer association, age, sex, race, and GPA.

**Stalking:** The dependent measure for this study is stalking. The specific item that is as follows: Have you ever performed the following behaviors in the past year: repeatedly contacted someone online even after they requested you stop. The original answer choices for these items are 1 (Never) to 5 (7+ times). The original answer choices result in non-normal data. To alleviate the non-normal data issue, the answer choices are collapsed to represent 0 (Never) and 1 (performed).

**Low Self-Control:** In order to address our hypothesis that adolescents with low self-control are likely to perform cyber stalking, we include a measure of low self-control. We use the 9-item measure that Schreck (1999) used in his study. The items for this measure are as follows:

- “I am usually pretty cautious.”
- “I don't devote much thought and effort to preparing for the future.”
- “I lose my temper easily.”
- “I see no need for hard work.”
- “I sometimes take a risk just for the fun of it.”
- “In general, I try hard.”
- “I try to get things I want even when I know that it's causing problems for other people.”
- “There is no good reason for one person to hit another.”
- “Most things people call delinquency don't really hurt anyone.”

The respondents indicated their response using a 5-point Likert-type scale (1 = Strongly Disagree to 5 = Strongly Agree). For this measure, higher scores are indication of lower levels of self-control. The internal consistency is low (Cronbach's Alpha=0.61), but this is consistent with the use of this version in the literature.

**Deviant Peer Association:** To address our hypothesis that adolescents who associate with deviant peers are more likely to perform stalking, we include an expanded measure to
capture multiple forms of crime and deviance. The measure captures the number of friends that perform an action in the past year. The items for this measure are as follows: How many of your friends performed the following behavior in the past year: 1) sexted a nude / partially nude picture, 2) used another person's debit / credit card without his/her permission, 3) used another person's license / ID card without his / her permission, 4) logged into another person's email without his / her permission and sent an email, 5) logged into another person's Facebook and posted a message, 6) accessed a website for which you were not an authorized user, 7) illegally downloaded a song or album from the Internet, 8) illegally downloaded software from the Internet, 9) illegally downloaded a movie from the Internet, 10) copied a music CD, 11) copied a software license, 12) copied a DVD, 13) repeatedly contacted someone online even after they requested he / she stop, 14) threatened another individual with violence online, and 15) repeatedly made sexual advances at someone. The respondents marked their responses using a 5-point Likert-type scale (1=None and 5=all of them). Higher scores on the scale indicate more association with deviant peers. The internal consistency for this measure is acceptable (Cronbach’s alpha = 0.95).

Control measures: We use a number of control measures. Age is a control measure and the respondent is asked to provide their age. Race is a dichotomous measure (0=non-white and 1=white). Gender is a dichotomous measure (0=female and 1=male). GPA is the self-report of the respondents’ current grade point average.

Analysis Plan
The analysis plan took place in two steps. The first step was a presentation of the descriptive statistics. The descriptive statistics provided some indication of the distribution of the data. The second step was the use of multiple regression. Multiple regression was an analysis technique that uses a set of independent measures (i.e., low self-control, deviant peer association, age, sex, race, and GPA) to predict or correlate to a dependent measure (i.e., stalking) (Freund & Wilson, 1998). In this study, the dependent measure was dichotomous, and this made the use of Ordinary Least Squares regression improper. Using OLS in this situation violated the assumption of continuous dependent measures (Lewis-Beck, 1979). In this study, binary logistic regression was the proper technique. While binary logistic regression was the proper technique, as with any form of multiple regression, multicollinearity was a potential problem. To check this issue, we followed Menard’s (2002) suggestion that the tolerance coefficient may be proper to use in binary logistic regression. Freund and Wilson (1998) argued that tolerance levels that 0.20 and below indicated multicollinearity problems.

Results
Tables 1 and 2 presents the frequency and descriptive statistics. The table shows that 5% of the sample has repeatedly contacted someone online even after they requested you stop. The average self-control score for the sample was 17.78. The average peer association score for the sample was 20.80. The average age of the sample was 15.77. Forty-nine percent of the sample was male. 72% of the sample was white. The average grade point average is 2.30.
Table 1. Frequency Statistics of Dependent Variable (Total N = 1617)

<table>
<thead>
<tr>
<th>Measure</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repeatedly contacted someone after they asked you to stop</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>1498</td>
<td>94.6</td>
</tr>
<tr>
<td>Once</td>
<td>31</td>
<td>2.0</td>
</tr>
<tr>
<td>2-3 times</td>
<td>14</td>
<td>0.9</td>
</tr>
<tr>
<td>4-6 times</td>
<td>9</td>
<td>0.6</td>
</tr>
<tr>
<td>7+ times</td>
<td>29</td>
<td>1.8</td>
</tr>
</tbody>
</table>

Table 2. Descriptive Statistics

<table>
<thead>
<tr>
<th>Measure</th>
<th>Mean</th>
<th>S. D.</th>
<th>Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stalking</td>
<td>0.05</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Self-Control</td>
<td>17.78</td>
<td>3.68</td>
<td>0.61</td>
</tr>
<tr>
<td>Peer Association</td>
<td>20.80</td>
<td>10.07</td>
<td>0.95</td>
</tr>
<tr>
<td>Age</td>
<td>15.77</td>
<td>1.33</td>
<td>-----</td>
</tr>
<tr>
<td>Sex</td>
<td>0.49</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Race</td>
<td>0.72</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>GPA</td>
<td>2.30</td>
<td>1.33</td>
<td>-----</td>
</tr>
</tbody>
</table>

Table 3. Logistic Regression Analysis of Stalking

<table>
<thead>
<tr>
<th>Measure</th>
<th>b</th>
<th>S.E.</th>
<th>Exp(b)</th>
<th>Tolerance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Control</td>
<td>0.16**</td>
<td>0.05</td>
<td>1.18</td>
<td>0.91</td>
</tr>
<tr>
<td>Peer Association</td>
<td>0.07**</td>
<td>0.01</td>
<td>1.08</td>
<td>0.91</td>
</tr>
<tr>
<td>Age</td>
<td>-0.07</td>
<td>0.12</td>
<td>0.93</td>
<td>0.98</td>
</tr>
<tr>
<td>Male</td>
<td>0.13</td>
<td>0.32</td>
<td>1.13</td>
<td>0.97</td>
</tr>
<tr>
<td>Race</td>
<td>-0.16</td>
<td>0.34</td>
<td>0.85</td>
<td>0.98</td>
</tr>
<tr>
<td>Grade Point Average</td>
<td>0.27**</td>
<td>0.10</td>
<td>1.31</td>
<td>0.93</td>
</tr>
</tbody>
</table>

Chi-Square: 112.44**
-2 log Likelihood: 339.60
Cox & Snell: 0.09
Nagelkerke: 0.28

p**<.01
Table 3 shows the logistic regression analysis for this study. The results indicate that our expectation that both self-control and social learning theories had a link with cyber stalking has been supported. Specifically, as an individual’s level of self-control decreased the likelihood of repeatedly contacted someone online even after they requested you stop or stalking increased (b=0.16, Exp(b)=1.18, 18% increase for every one unit change). Increases in deviant peer association resulted in an increase in the likelihood of stalking (b=0.07, Exp(b)=1.08, 8% increase for every one unit change). Finally, as an individual’s grade point average increased, the likelihood of repeatedly contacted someone online even after they requested you stop or stalking increased (b=0.27, Exp(b)=1.31, 31% increased for every one unit change). The tolerance coefficients show that multicollinearity is not a problem.

Discussion and Conclusion

The purpose of the present study was to provide an examination of whether self-control and social learning theories via deviant peer association had links with cyber stalking. The results of this study show that as self-control levels go down the likelihood of cyber stalking increases, which is supportive of Gottfredson and Hirschi’s (1990) assumptions. Individuals with low self-control are not able to control their impulses when it comes to participating in this behavior and are not likely to foresee the likely consequences that come from making these advances. The results also show that individuals that associate with deviant peers are more likely to perform cyber stalking, supporting Akers’ (1998) version of social learning theory. Deviant peers provide an environment that is conducive to developing the proper definitions for committing cyber stalking.

An interesting finding from the study is that as individuals grades improved they were more likely to perform cyber stalking. This finding is particularly interesting as it aligns with previous research that has indicated that cyber criminals are more likely to possess higher levels of intelligence compared to those who perform property crimes in the physical world, as those individuals often have lower IQ levels (Skinner & Fream, 1997; Stambaugh et al., 2001). Participation in cyber stalking does not require brute force or physical agility, but rather the ability to outwit.

The results of the present study should be kept within the limits of this study. The results come from a cross-sectional sample, but it is important to keep in mind that Gottfredson and Hirschi argued that cross-sectional samples were valid and important to provide information to inform criminology of actions regarding their theory. Akers (1998) also argued that cross-sectional samples were important to use to examine his theory as well. Second, the sample of juveniles is from a rural county in the southeast. The issue of external validity could be a factor when considering the cyber stalking behaviors of juveniles in more urban regions in different areas of the country. With this being said, future research indicates the need to perform geographical comparison studies of juveniles with this type of behavior. Furthermore, when asking individuals to honestly report offending behaviors, there is always an issue of accuracy especially an issue with juveniles. However, a notable portion of the sample did report participation in this behavior and it is fair to assume that even more of the juveniles in the study also have committed cyber stalking but refrained from admitting participation.

Despite these limits, the present study shows that low self-control and social learning theory have links with perpetrating cyber stalking. In particular, as self-control goes...
down, the likelihood of the criminal behavior increases. Further, as the association with deviant peers increases, the likelihood of cyber stalking increases. A possible policy implication of these findings is development of programs for high school students to address the legal implications and punishments of cyber stalking, as juveniles may perceive it to be a crime without punishment. In order to address the lack of self-control, cognitive skill training to teach better maintenance of self-control may be beneficial for these youth. Furthermore, as results have indicated that those of higher intelligence are more likely to participate in this behavior, recognition of the juvenile groups who have a strong interest in technology and innovation may be the minors to target for this type of intervention.

References


