



Becoming Someone New: Identity Theft Behaviors By High School Students

By: **Catherine D. Marcum**, George E. Higgins, Melissa L. Ricketts, and Scott E. Wolfe

Abstract

The purpose of the paper is to contribute to the gap in the literature by investigating the identity theft behaviors of adolescents under the age of 18 and the predictors of these behaviors. To better understand the predictors of hacking behaviors in young people, two criminological theories, general theory of crime and social learning theory, are utilized. A rural county in western North Carolina was chosen to participate in the study. Principals of four high schools in this county agreed to participate. All 9th through 12th graders were recruited for the study. Those who were given parental permission to participate and gave their own assent were given a survey. Results indicated that low self-control and deviant peer association were in fact associated with identity theft behaviors of juveniles.

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Becoming someone new: identity theft behaviors by high school students

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Abstract

Purpose – The purpose of the paper is to contribute to the gap in the literature by investigating the identity theft behaviors of adolescents under the age of 18 and the predictors of these behaviors. To better understand the predictors of hacking behaviors in young people, two criminological theories, general theory of crime and social learning theory, are utilized.

Design/methodology/approach – A rural county in western North Carolina was chosen to participate in the study. Principals of four high schools in this county agreed to participate. All 9th through 12th graders were recruited for the study. Those who were given parental permission to participate and gave their own assent were given a survey.

Findings – Results indicated that low self-control and deviant peer association were in fact associated with identity theft behaviors of juveniles.

Originality/value – The literature is scant, if even existent, on research that investigates the identity theft offending behaviors of juveniles.

Keywords Cybercrime, Identity theft, Juveniles

Paper type Research paper

Identity theft is the theft of a person's identity through the use of personal identification with the intention of fraudulent activity (Moore, 2011). The offender steals information that is unique to the individual with the intention of assuming the identity of the victim for their own personal gain. The Federal Trade Commission (2012) has estimated that over 9 million people are victims of identity theft each year, and this form of victimization can occur in two major ways. The first method involves the offender assuming the physical identity of the victim and posing as that person to obtain money

or free goods. For example, an offender who looks like Brad Pitt can use false identification to book hotel rooms, get free clothing and services and go to restaurants. The second method, which is generally easier to initiate, involves the theft of a victim's personal information for financial gain. An offender steals a name, Social Security number and other pieces of personal information to apply for credit cards, loans and bank accounts. The debt incurred and credit damage go to the victim and the offender reaps the benefits.

While both of the above-mentioned forms of identity theft involve financial repercussions, it is important to mention that identity can also be stolen virtually, which does not usually involve money. The offender uses someone else's login information to assume the identity of the victim on a social networking Web site or email account. The offender could pose as someone else on Facebook and post hurtful comments on other friends' pages, or send nasty emails to recipients. While financially the individual is not harmed, his or her social reputation is hurt (Moore, 2011).

There are multiple methods of identity theft that can be used by perpetrators. Dumpster diving, one of the most popular methods, involves stealing someone else's trash to obtain credit card offers, account numbers and other personal information. Packet sniffing involves the use of software to intercept account information during a transaction for a legitimate purchase. Phishing scams, also very popular, involve sending emails from supposedly legitimate entities such as banks and credit card companies. These emails request verification of a password or account for security purposes, but are actually used to make fraudulent purchases.

The majority of research performed examines identity theft victimization rather than the characteristics of identity theft perpetrators. However, Copes and Vieraitis (2007) did make a contribution to this gap in the literature with their study of adult inmates incarcerated for identity theft. They found that approximately 52.5 per cent of the respondents were employed at the time of their crime and 35.5 per cent of those reported that their workplace facilitated the behavior. Most had been previously arrested for financial fraud or identity theft. Copes and Vieraitis found support for the use of techniques of neutralization to justify the criminal behavior, but did not test self-control or social learning theories with this study.

While Copes and Vieraitis (2007) definitely made a contribution to the literature, there is still a huge gap in studies that examine perpetration of identity theft. Furthermore, the literature is scant, if even existent, on research that investigates the identity theft offending behaviors of juveniles. The purpose of the present study is to contribute to this need in the literature by investigating the identity theft behaviors of adolescents under the age of 18, as well as attempting to explain predictors of this behavior. To better understand the predictors of hacking behaviors in young people, we will be utilizing two criminological theories:

- (1) general theory of crime; and
- (2) social learning theory.

Gottfredson and Hirschi (1990) argued that individuals who were exposed to ineffective parenting, including lack of bond, poor monitoring and inconsistent or ineffective discipline, were more likely to develop low self-control (Gibbs *et al.*, 1998, 2003). Low self-control includes the inability to resist temptation when an opportunity presents itself, as the individuals do not consider the long-term consequences of their behavior.

Individuals with low self-control are characterized as impulsive, insensitive, risk-taking and attracted to simplistic tasks (Delisi, 2001). Gottfredson and Hirschi (1990) argued that individuals with low self-control are unable to see the consequences of their actions because of the characteristics of low self-control:

[...] the dimensions [characteristics] of self-control are, in our view, factors affecting the calculation of the consequences of one's acts. The impulsive or shortsighted person fails to consider the negative or painful consequences of his acts; the insensitive person has fewer negative consequences to consider; the less intelligent person also has fewer consequences to consider (has less to lose). (Gottfredson and Hirschi, 1990, p. 95).

Crime is attractive because it provides the immediate benefits for the individual with low self-control without considering the long-term impact of the act for themselves or others.

This logic can be applied to identity fraud. The impulsive or shortsighted individuals fail to see the breach in trust when they perform identity fraud. Further, the insensitive person does not consider the amount of time and resources necessary to prevent the behavior, nor do they consider the possibility of being caught and legal sanctions. While these characteristics have been applied to identity fraud, others have applied this to cybercrime. This version of the general theory of crime has been shown to explain various types of cybercrime, including illegal music downloading (Higgins *et al.*, 2008; Hinduja and Ingram, 2008), movie piracy (Higgins *et al.*, 2006; 2007) and software piracy (Higgins and Wilson, 2006; Moon *et al.*, 2010). Fewer studies have tested the general theory of crime as a theoretical explanation for identity fraud behaviors online (Bossler and Burruss, 2011; Holt *et al.*, 2012).

The next theory of interest for this study is social learning theory. Akers' (1998) asserted with his social learning theory that crime is a learned behavior and this learning process involves four parts. Differential association in the social learning theory refers to an individual's primary interactions with others in a group. Definitions refer to an individual's attitudes toward a behavior, including the techniques, rationalization and drives to perform a behavior. Imitation of this behavior refers to witnessing someone else perform a behavior and emulating the behavior. Finally, 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 and Marcum, 2011).

This version of the social learning theory is complex. The complexity comes in the causal logic or timing of the social learning theory parts. However, Akers (1998) argued that a positive connection between social learning theory measures and a dependent measure provides sufficient support for the theory as a whole. For example, researchers show that differential association is the most supported part of the social learning theory (Pratt *et al.*, 2010). This indicates support for the social learning theory, especially when considering Krohn's (1999) view that the majority of social learning takes place within differential association.

Multiple studies have shown support for the social learning theory to explain cybercrime (Bossler and Burruss, 2011; Higgins *et al.*, 2007, 2008; Hinduja and Ingram, 2008; Holt *et al.*, 2012; Ingram and Hinduja, 2008; Morris and Higgins, 2010). In addition, research has also indicated that individuals with lower levels of self-control gravitate toward deviant peer groups offline (Chapple, 2005; Longshore *et al.*, 2004) and online (Bossler and Holt, 2010; Higgins *et al.*, 2006; Wolfe and Higgins, 2009). Again, while we

are yet to have concrete evidence from past research indicating that this theory would effectively predict identity theft in juveniles, we can understand the connection between association with deviant peers who have stolen identities and the choice to participate (Skinner and Fream, 1997).

Present study

Research has consistently indicated that individuals under the age of 18 are not only those who are most likely to be cybervictimized in multiple ways, but also have a high likelihood of perpetrating these types of crimes. Furthermore, there is still a gap in the theoretical literature that provides support of explanation of this behavior for this age group. The purpose of this study is to provide a clearer picture of the number of high school students who are participating in the cybercrime of identity theft, as well as the predictors of such behaviors.

Methodology

Research design

A rural county in western North Carolina was chosen to participate in the study. Principals of four high schools in this county agreed to participate. All 9th through 12th graders were recruited for the study. First, a consent form with the information about the study was sent home two weeks before administration of the survey to the parents of all the students. If parents did not wish their children to participate, the form was signed and returned to the school with the name of the 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. A total of 1,617 surveys were completed.

Measures

The survey administered to students asked a multitude of questions. Respondents were asked to report their behaviors as offenders of various forms of cybercrime, as well as the cybervictimizations experienced. Students were also asked to report behaviors of their peers, as well as demographic characteristics. The measures used for this particular study include items from identity fraud perpetration, low self-control, deviant peer association, age, sex, race and grade point average (GPA).

Identity fraud. The dependent measure for this study is identity fraud. Two items are used for this study. The two items are as follows: Have you ever performed following behaviors in the past year:

- (1) used another person's debit/credit card without his/her permission; and
- (2) used another person's license/ID card without his/her permission.

The original answer choices for these items are 1 (never) and 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. To address our hypothesis that individuals with low self-control are likely to perform identity fraud, we include a measure of low self-control. We use the nine-item measure that Schreck and Miller (1999) use in their study. The items for this measure are as follows:

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- “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 five-point Likert-type scale (1 = strongly disagree to 5 = strongly agree). For this measure, higher scores are indicative 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 individuals who associate with deviant peers are more likely to perform identity fraud, 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:

- texted a nude/partially nude picture;
- used another person’s debit/credit card without his/her permission;
- used another person’s license/ID card without his/her permission;
- logged into another person’s email without his/her permission and sent an email;
- logged into another person’s Facebook and posted a message;
- accessed a Web site for which you were not an authorized user;
- illegally downloaded a song or album from the Internet;
- illegally downloaded software from the Internet;
- illegally downloaded a movie from the Internet;
- copied a music CD;
- copied a software license;
- copied a DVD;
- repeatedly contacted someone online even after they requested he/she stop;
- threatened another individual with violence online; and
- repeatedly made sexual advances at someone.

The respondents marked their responses using a five-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 takes place in two steps. The first step is a presentation of the descriptive statistics. The descriptive statistics provide some indication of the distribution of the data. The second step is the use of multiple regression. Multiple regression is 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. identity fraud) (Freund and Wilson, 1998). In this study, the dependent measure is dichotomous, and this makes the use of ordinary least squares (OLS) regression improper. Using OLS in this situation violates the assumption of continuous dependent measures (Lewis-Beck, 1979). In this study, binary logistic regression is the proper technique. While binary logistic regression is the proper technique, as with any form of multiple regression, multicollinearity is a potential problem. To check this issue, we follow Menard's (2002) suggestion that the tolerance coefficient may be proper to use in binary logistic regression. Freund and Wilson (2002) argue that tolerance levels that are 0.20 and below indicate multicollinearity problems.

Results

Tables I and II presented the frequency statistics of the dependent variable and the descriptive statistics. The table shows that 4 per cent of the sample has used a debit card illegally. Further, 3 per cent of the sample has used a license illegally. 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

Measure	N	(%)
<i>Use of debit/credit card without permission</i>		
Never	1,536	96.4
Once	20	1.3
2-3 times	6	0.4
4-6 times	4	0.3
7+ times	27	1.7
<i>Use of license/ID card without permission</i>		
Never	1,544	96.9
Once	13	0.8
2-3 times	6	0.4
4-6 times	3	0.2
7+ times	27	1.7

Note: Total N = 1,617

Table I.
Frequency statistics
of dependent variable

per cent of the sample was male and 72 per cent of the sample was White. The average GPA is 2.30.

Table III shows the logistic regression analyses for this study. The results indicate that deviant peer association (i.e. social learning theory) has a link with illegally using a debit card. This is supportive of social learning theory, but the results do not support self-control theory. Specifically, the results show that as deviant peer association increases, the likelihood of the illegal use of a debit card increases ($b = 0.08$, $\text{Exp}(b) = 1.08$, 8 per cent increase per one unit change). In addition, males are more likely ($b = 1.07$, $\text{Exp}(b) = 2.90$, 190 per cent more likely) to illegally use a debit card. As an individual's GPA increases, the likelihood of the illegal use of a debit card increases ($b = 0.45$, $\text{Exp}(b) = 1.57$, 57 per cent increase for every one unit change). The tolerance coefficients indicate that multicollinearity is not a problem.

Table III presents the logistic regression analysis that examines whether self-control theory and social learning theory have a link with the illegal use of a license. The results are supportive of social learning theory, but not supportive of self-control theory. Specifically, the results indicate that as deviant peer association increases, the likelihood of the illegal use of a license increases ($b = 0.09$, $\text{Exp}(b) = 1.10$, 10 per cent increase for every one unit change). Further, as an individual's GPA increases ($b = 0.37$, $\text{Exp}(b) = 1.44$,

Table II.
Descriptive statistics

Measure	Mean	SD	Alpha
Illegal use of debit card	0.04	–	–
Illegal use of license	0.03	–	–
Self-control	17.78	3.68	0.61
Peer association	20.80	10.07	0.95
Age	15.77	1.33	–
Sex	0.49	–	–
Race	0.72	–	–
GPA	2.30	1.33	–

Table III.
Logistic regression
analysis of identity
fraud

Measure	Illegal use of debit card				Illegal use of license			
	b	SE	Exp(b)	Tolerance	b	SE	Exp(b)	Tolerance
Self-control	0.03	0.05	1.03	0.91	0.02	0.05	1.02	0.91
Peer association	0.08**	0.01	1.08	0.91	0.09**	0.01	1.10	0.91
Age	0.05	0.15	1.05	0.98	0.10	0.16	1.10	0.98
Male	1.07*	0.45	2.90	0.97	0.43	0.45	1.53	0.97
Race	–0.71	0.41	0.49	0.98	–0.75	0.46	0.47	0.98
Grade point average	0.45**	0.10	1.57	0.93	0.37**	0.12	1.44	0.93
Chi-square	222.71**				102.88**			
–2 log likelihood	104.58				188.35			
Cox & Snell	0.08				0.08			
Nagelkerke	0.35				0.38			

Notes: * $p < 0.05$; ** $p < 0.01$

44 per cent increase for every one unit change), the likelihood of the illegal use of a license increases.

Discussion

In regard to the first set of findings, we see that there is a relationship between identity theft of a debit or credit card and deviant peer association. Respondents who associated with deviant friends were more likely to participate in this form of identity theft, especially males. This was also the case for the unauthorized usage of a license or identity card, as respondents who associated with deviant peers were more likely to participate in this behavior. Both of these findings indicate that identity theft in high school students can be explained by involvement with delinquent peers, providing support for social learning theory. Although the specific circumstances were not requested in this particular study, it may be fair to assume that individuals who participated in this behavior were with other friends who were using false identification to purchase cigarettes or beer or gain access to areas for individuals over the age of 21. The popular term “peer pressure” can absolutely apply.

The findings also indicated that both forms of identity theft in the study were more likely to be performed by individuals with better performance in school. As the respondents' GPAs increased, the more likely they were to participate in identity theft. This finding is particularly interesting, as it aligns with previous research that has indicated that cybercriminals 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 and Fream, 1997; Stambaugh *et al.*, 2001). Participation in this type of theft does not require brute force or physical agility, but rather the ability to outwit.

Despite past research that has found support for self-control theory and its ability to predict cybercrime (Bossler and Burruss, 2011; Higgins *et al.*, 2006, 2007, 2008; Hinduja and Ingram, 2008; Holt *et al.*, 2012), this research did not indicate that individuals with low self-control were more likely to commit identity theft. A possible explanation again relates to this type of criminality. Individuals with low self-control are impulsive, are risk-takers and do not consider the long-term consequences of their behavior. As individuals with better school performance are more likely to commit this type of crime, these individuals have demonstrated higher levels of self-control necessary to succeed academically.

There are limitations to this study that should be noted. First, the sample of juveniles is from a rural county in the southeast. The issue of external validity could be a factor when considering the identity theft 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. Second, when asking individuals to honestly report offending behaviors, there is always a question of the accuracy of the data provided. This is 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 identity theft but refrained from admitting participation.

Despite its limitations, this literature is extremely important, as it is the one of the first pieces of research looking at identity theft behaviors of juveniles. A possible policy implication of these findings is development of programs for high school students to address the legal implications and punishments of identity theft. Results have indicated that those of higher intelligence are more likely to participate in this behavior, as well as those who have deviant peer associations. 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.

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