Does Social Learning Theory Condition the Effects of Low Self-Control on College Students' Software Piracy?

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Abstract

Although researchers have examined software piracy using several correlates and theories, it is not clear whether low self-control has an effect on software piracy and if social learning theory can condition the effect that low self-control has on college students' software piracy. Using data collected from three hundred and eighteen undergraduate college students, this study examines the effect that low self-control has on software piracy and whether social learning measures (i.e., associating with deviant peers and attitudes) condition this effect. The results show that low self-control does have an effect on software piracy and that social learning theory measures (i.e., associating with several deviant peers and high levels of positive attitudes toward software piracy) condition this effect.

Introduction

The growth in the use of microcomputers makes life easier for many in the world. However, this growth parallels the growth in software piracy (Glass & Wood, 1996). Software piracy occurs when an individual illegally copies commercially available software in order to avoid fees, or when an individual makes unauthorized copies of an organization's internally developed software for personal use or distribution (Straub & Collins, 1990; Britz, 2004). This behavior is most common among college students (Solomon & O'Brien, 1990; Sims, Cheng, & Teegan, 1996) who are majoring in liberal arts subjects (Hollinger, 1988; Husted, 2000) and who have previous software piracy or computer experience (Hinduja, 2001).

According to an industry survey, in 2000 one-third of all personal computer software packages were illegal copies (Business Software Alliance, 2003). The estimates of software piracy indicate that the behavior is widespread and that software manufacturers are losing billions of dollars annually (Peace, Galletta, & Thong, 2003; Seale, Polakowski, & Schneider, 1998). The ease with which software can be pirated makes such behavior difficult to detect. Britz (2004) commented that it is all but impossible to stop. Two factors have contributed to this problem. First, the Internet has provided an easy means to pirate software. Second, software piracy usually does not occur with the creator or publisher of the software present, giving the impression that the behavior is "victimless." That is, the software pirate may regard his actions as producing little harm for the billion-dollar company. Therefore, individuals may pirate

software without any regard for the long-term repercussions that it may have for the industry or society.

However, software piracy can have substantial repercussions for the individual. For instance, the behavior is a violation of the federal Copyright Act of 1976 as amended by the Computer Software Act of 1980, making fines and jail sentences a possibility for the individual. Hollinger and Lanza-Kaduce (1988) reported that similar types of laws have been passed in all fifty states. According to these laws, institutions (i.e., colleges or universities and employers) can also be held liable for software piracy, even if the individual unintentionally pirates the software (see Im & Keon, 1990). Thus, software piracy is an economically and socially detrimental behavior that is a crime worthy of researchers' attention.

Since Parker's (1976) work, research attention has been focused on identifying the determinants of software piracy. For instance, some studies show that favorable attitudes toward software piracy and associating with peers who engage in pirating software play an important role in the behavior (see Eining & Christensen, 1991; Logsdon, Thompson, & Reid, 1994; Reid, Thompson, & Logsdon, 1992; Rahim, Seyal, & Rahman, 2001). Other studies have shown that individuals who did not believe software piracy was a moral transgression were likely to pirate software (see Cohen & Cornwell, 1989; Solomon & O'Brien, 1990; Glass & Wood, 1996; Taylor & Shim, 1993).

Although these studies are useful in documenting the actual problem of software piracy, they are not useful in contributing to the understanding of the behavior using criminological theory. The application of criminological theory is essential for a comprehensive understanding of software piracy, as it will provide criminologists, professionals, and practitioners with important conceptual frameworks for developing effective interventions. Criminological theories can isolate the important measures to augment the behavior. Two of these, self-control theory and social learning theory, which have support in the literature, may be able to explain software piracy and provide information toward reducing its occurrence.

Self-Control Theory

Gottfredson and Hirschi's (1990) *General Theory of Crime*, now known as self-control theory, may help explain software piracy. The theory claims that rational individuals are attracted to pleasurable acts instead of painful ones. It casts crime as a pleasurable act and claims to explain all the individual differences in crime all of the time. Gottfredson and Hirschi argue that crimes are acts of force or fraud that an individual pursues to satisfy his own interest. Crimes, in their view, are acts that are simple and easy to perform, and provide excitement and instant gratification. Further, crimes do not require any specific form of motivation. In fact, crime only requires an opportunity and an assessment that the act will provide pleasure. Thus, their view of crime is similar to the aspects that are associated with software piracy.

Central to an individual's assessment that a criminal act will provide pleasure is his time stable propensity for crime or level of self-control. Gottfredson and Hirschi maintain that an individual's self-control is his ability to resist temptation when an opportunity presents itself. When individuals cannot resist an opportunity for crime, they have low self-control. Gottfredson and Hirschi characterize individuals with low self-control as being impulsive, insensitive, self-centered, risk-takers, and likely to engage in acts that are physical, simple, and easy. These characteristics fit their assertion that crime is pleasurable, simple, and easy. Further, the characteristics of low self-control shape how an individual assesses the consequences of an action. Gottfredson and Hirschi (1990: 95) stated:

> …the dimensions [characteristics] 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 negative consequences to consider (has less to lose).

Thus, low self-control increases the likelihood that individuals will commit crimes such as software piracy, because they do not consider the consequences of their actions for themselves or for others. According to Gottfredson and Hirschi (1999), individuals with low self-control are the products of poor or ineffective parenting (i.e., lack of attachment, monitoring, recognition of deviance, and non-corporal discipline of deviant behavior).

The literature has shown that low self-control has a link with general measures of criminal behavior (see Pratt & Cullen, 2000). Two longitudinal studies have shown that low self-control remains stable over time (see Turner & Piquero, 2002; Arneklev, Cochran, & Gainey, 1998). Consistent with previous research, we suggest that the time stable propensity (i.e., low self-control) should have a link with software piracy. Further, studies have shown that low self-control has a link with many behaviors, but no study has shown that low self-control has a link with software piracy.

Criminologists have shown in tests of self-control theory that associating with deviant peers remained significant when low self-control had a link with crime (see Pratt & Cullen, 2000; Winfree & Bernat, 1998; Burton, Cullen, Evans, Alaird, & Dunaway, 1998). Self-control theory and social learning theory may relate in complicated ways to an explanation of crime (see Evans, Cullen, Burton, Dunaway, & Benson, 1997). Specifically, Evans et al. (1997:494) stated:

> Self-control and social learning may be related in complex mutually reinforcing ways. We suspect that the tendency of persons with low self-control to engage in criminal and analogous behaviors can be exacerbated, or strengthened, by exposure to criminal associates [i.e., deviant peer associations] and criminal values [i.e., favorable attitudes

> toward crime]. Exposure to criminal associates may activate latent individual tendencies in several ways.

One way that peers may activate these tendencies is to show those with low self-control how "fun" or pleasure can be gained from crime. This view is similar to Gottfredson and Hirschi's who stated, "people acquire the propensity to delinquency, find delinquent friends, and then commit delinquent acts, including serious delinquent acts" (1987: 597). Thus, social learning theory measures can be the focus of policies to reduce software piracy. Therefore, it appears that individual propensities and some social learning measures may have a complicated link, but it is unclear if this is the case when examining software piracy.

Social Learning Theory

Social learning theory (see Akers, 1985, 1998) is important to this study for several reasons. First, it uses measures (i.e., associating with deviant peers and attitudes about behavior), which are common in the software piracy literature. Second, it is a general theory that applies to all types of criminal behavior. Third, the measures of social learning theory are dynamic, and do not rely on static measures such as low self-control. This allows for direct policy development from social learning theory. Thus, social learning theory is a suitable and important theory that may condition the hypothesized effect that low self-control has on software piracy.

Building on several others (see Sutherland & Cressey, 1974; Bandura, 1986; Skinner, 1953), Akers (1985, 1998) proposed a social learning theory that consists of four concepts: differential association, definitions, differential reinforcement/punishment, and imitation. Differential association is an individual's exposure to criminal behavior and criminal attitudes through the association with others who are involved in crime (i.e., associating with deviant peers). Definitions are an individual's attitudes toward a certain behavior. These criminal attitudes are rationalizations that arise from positive evaluations about performing the crime. Differential reinforcement refers to the rewards that are associated with a particular criminal behavior. Finally, imitation is when an individual models his criminal behavior after the performance of others.

A complete test of this version of social learning theory would require measuring the concepts with a specific causal structure (see Akers, 1998; Akers, Lanza-Kaduce, & Radosevich, 1979; Krohn, Skinner, Massey, & Akers, 1985). This is beyond the scope of the current study, but social learning theory does provide a foundation to develop hypotheses among select concepts that are important to software piracy. Thus, positive findings in this regard can be treated as support for social learning theory.

The literature shows the use and support for social learning theory for a wide variety of behaviors (see Akers, 1998 for an extensive literature review on the studies that support the theory). Specific to this study, Skinner and Fream (1997) provided the only study that showed that this version of social learning theory had a link with computer crime

including software piracy. They used a college student sample. They found that differential association and definitions had important links to software piracy, but imitation and reinforcement did not. Therefore, we believe that these social learning theory measures will have a link with software piracy. Further, these two measures will be the only social learning theory measures used as conditions in the current study.

To date, some research recognizes that self-control theory and social learning theory may overlap (see Agnew, 1995 for a detailed theoretical argument). Empirical research shows that differential association (i.e., more associations with deviant peers) conditions the link that low self-control has with deviance (see Wright et al., 1998; Gibson & Wright, 2001), but these studies did not examine measures of software piracy. Unfortunately, no study in the literature examines how definitions (i.e., attitudes) condition the link that low self-control has with any form of deviance. Thus, a compelling study would examine how associating with deviant peers and an individual's attitudes toward software piracy can condition the link that Gottfredson and Hirschi's low self-control theory has with software piracy.

The Present Study

The purpose of the present study is to determine if social learning theory conditions the effect that low self-control has on software piracy. If low self-control links to software piracy and low self-control are not easily changed, it is important to examine whether modifiable measures condition the effect that low self-control has on the behavior. It is expected that associating with deviant peers and favorable attitudes for software piracy will condition the effect that low self-control has on software piracy. Using responses from a nonrandom sample of 318 undergraduates, this study examines these expectations. As a result, the study significantly contributes to theoretical examinations of computer crime (i.e., software piracy) using low self-control and social learning theory. Furthermore, it will assist in developing policy to address software piracy for colleges and universities.

Method

This section outlines the procedures, sampling, and measures for this study.

Procedures and Sampling

After procuring Institutional Review Board approval, the researchers gave a self-report questionnaire to college students at an eastern university in the United States, in the fall 2003 semester. The students were from different majors enrolled in two courses open to everyone at the university and two courses open to only Justice Administration majors. Both courses were in the College of Liberal Arts. The researchers asked students who were present on the day of questionnaire administration to take part in the study during the class period. The researchers told the students of the voluntary nature of the study, and that all responses were both anonymous and confidential. This set of

procedures produced three hundred and twenty surveys; after listwise deletion for missing data, three hundred and eighteen surveys remained.[1]

The sample had sixty-two percent females (*n*=196) and thirty-eight percent males (*n*=122). The average age for the sample was twenty-two. The sample was seventy eight percent white, sixteen percent African-American and six percent other (including Hispanic, Native American, & Asian). In comparison to the university from where the sample was drawn, the sample had a higher percentage of African-Americans and more females. Further, all of the students in the sample had a major in the liberal arts. The students were experienced computer users, having used computers an average of seven times in the previous two weeks.

Measures

This section presents the measures of software piracy, low self-control, associating with software pirating peers, software pirating attitudes, moral beliefs toward software piracy, computer use, and control measures.

Software piracy scenario. The dependent measure for this study was a scenario about taking software home for personal use and giving it to a friend, taken from Shore, Venkatanchelen, Soloranzo, Burn, Hassan, & Janczewski (2001). (See Appendix A for all of the measures in this study.) The students marked the likelihood that they would engage in the behavior in the scenario on a five-point Likert-type scale (1 = not very likely to 5 = very likely). Higher scores on the item signaled a stronger likelihood of intentions to pirate software under these conditions.[2]

Low self-control**.** The measure of low self-control was the twenty-four item composite Grasmick, Tittle, Bursik, & Arneklev scale (1993). The response categories for the scale ranged from one (strongly disagree) to four (strongly agree). Higher scores signaled lower levels of self-control.[3] This scale had an internal consistency of .83, and factor analysis with a scree test showed the scale was unidimensional similar to other studies (see Piquero, Gibson, & Tibbetts, 2002; Unnever, Cullen, & Pratt, 2003; Pratt & Cullen, 2000; Tittle, Ward, & Grasmick, 2003).

Associating with deviant peers. The measure of associating with software pirating peers was a composite of six items from Krohn, Skinner, Massey and Akers (1985). The items asked students the following: how many of their best (male/female) friends copy software, how many of the friends (male/female) they have known the longest copy software, and how many of the friends whom they are around the most copy software. The students provided this information using five answer choices (1 = none of my friends, 2 = one of my friends, 3 = two of my friends, 4 = three of my friends, 5 = four or more of my friends). Higher scores on the scale represented associating more with

software pirating peers.[4] The scale had an internal consistency of .95, and factor analysis using a scree test showed the scale was unidimensional.

Attitudes toward software piracy. This study used Rahim et al.'s (2001) eleven item scale that captures software pirating attitudes. In their composite form, the items captured an individual's favorable or unfavorable attitudes toward pirating software. Respondents marked their attitude on a four-point Likert-type scale anchored by "strongly disagree" to "strongly agree." Higher scores on the scale signaled favorable attitudes toward software piracy. The scale had an internal consistency of .89 and factor analysis using a scree test showed the scale was unidimensional.

Moral beliefs toward software piracy. To capture the students' moral beliefs toward software piracy, this study followed the work of Swinyard, Rinne, & Kou (1990) and Bachman, Paternoster, & Ward (1992) by asking students how morally wrong it would be to perform the action in the scenario. The moral beliefs measure consisted of a single item that used a five-point Likert-type format. When the students scored higher on this item it was a signal of stronger moral beliefs that software piracy is wrong.

Computer use. This study used a composite of three items to capture the students' computer use from Igbaria and Chakrabarti (1990). The students were asked about their use of software (e.g., spreadsheets, word processing, and data bases), the Internet, or e-mail. The response categories were: 1 = never, 2 = sometimes, 3 = often, 4 = a lot. The items had an internal consistency of .74 and factor analysis shows the items form a unidimensional scale. The individual items were then recoded to a dichotomous measure to reflect no use or use. From this recode, the summative scale has a possible range of scores from 1 to 3.

Demographic measures. The demographic measures for this study were an individual's age and sex. These measures served as controls. The descriptive statistics for all of the measures are in Table 1.

Table 1. Sample Descriptive Statistics and Bivariate Correlations of Measures (n=318)

	Mean	S.D.	1	2	3	4	5	6	7	8
1. Software Piracy	3.69	1.24	1.00							
2. Self-Control	51.88	7.79	.36*	1.00						
3. Moral Beliefs	3.47	1.00	-.18*	-.14*	1.00					
4. Software Pirating Peers	13.12	6.90	.36*	.14*	.12*	1.00				
5. Software Pirating Attitudes	28.71	5.77	.37*	.31*	-.32*	.43*	1.00			
6. Gender	1.62	.49	-.12*	-.20*	.14*	-.15*	-.20*	1.00		
7. Age	22.24	5.43	-.17*	-.25*	.09	-.22*	-.37*	.02	1.00	
8. Computer Use	2.88	.40	.16*	.07	.04	.21*	.11*	.10	-.17	1.00

* Denotes statistical significance at the .05 level.

Results

Table 1 (see above) presents the bivariate correlations. Two points will be addressed. First, there is not any multicollinearity among the independent measures. The largest correlation (r = .43) is between the associating with software pirating friends and the attitude toward software piracy measure. Second, the measures have links in their predicted direction, but regression analysis is needed to solidify this finding.
Table 2 summarizes the baseline multiple regression analysis to determine if low self-control has a link with software piracy, while controlling for associating with deviant peers, attitudes toward software piracy, moral beliefs toward software piracy, computer use, and demographics. The findings show that low self-control does have a significant link with software piracy supporting the bivariate correlation. It also shows that associating with deviant peers is important to understanding software piracy. Attitudes toward software piracy and an individual's moral view also have a link with software piracy.

Table 2. Baseline Multiple Regression with Software Piracy as the Dependent Variable

	b	**SE**	**Beta**	**95% Confidence Interval**
Self-Control	.02*	.01	.12	.00, .04
Moral Beliefs	-.41*	.06	-.34	-.53,-.31
Software Pirating Peers	.03*	.01	.18	.01, .05
Software Pirating Attitudes	.06*	.01	.29	.04, .09
Gender	-.02	.13	.00	-.27, .23
Age	.02	.01	.09	-.00, .04
Computer Use	.06*	.03	.09	.00, .12
f	27.67*			
R^2	.39			
N	316			

* Denotes statistical significance at the .05 level.

Table 3 presents the subsamples defined by associating with deviant peers. In the low deviant peers subsample, low self-control is not significant nor are control measures, including age, gender, and computer knowledge. On the other hand, attitudes and moral views toward software piracy are significant. However, in the high deviant peers subsample, low self-control is significant. Also, moral beliefs about software piracy and attitudes are significant.

Table 3. Software Piracy: Deviant Peer Association and Attitude Subsamples

Measure	Low Deviant Peers			High Deviant Peers			Low Attitudes			High Attitudes		
	b	B	SE	b	B	SE	b	B	SE	b	B	SE
Self-Control	.01	.07	.01	.03*	.19	.01	01	.05	.01	.02*	.14	.01
Moral Beliefs	-.41*	-.35	.08	-.43*	-.41	.09	-.42*	-.35	.10	-.43*	-.41	.07
Associating with Deviant Peers	----			-----			.08*	.35	.02	.03*	.18	.01
Attitudes	.08*	.34	.02	.05*	.22	.02	----			-----		
Gender	.04	.02	.17	-.17	-.08	.19	-.10	-.04	.23	-.08	-.03	.14
Age	.02	.09	.01	.06	.12	.04	.01	.05	.02	.05*	.13	.03
Computer Use	.05	.09	.04	.08	.13	.05	-.04	-.07	.02	.15*	.24	.04
f	15.77*			11.01*			6.89*			14.14*		
R^2	.32			.39			.25			.32		
N	204			112			130			186		

*p<.05

Table 3 also presents the estimates for the subsamples defined by level of attitudes. Two of the estimates retained their significance in the low attitude subsample (i.e., moral attitudes toward software piracy and associating with deviant peers). In the high attitude subsample, self-control is significant at the .05 level. Also, in this subsample, four other measures (i.e., moral attitudes toward software piracy, associating with deviant peers, age, and computer use) are significant.

Because associating with deviant peers and attitudes are conditions for the effect that low self-control has on software piracy, it is important to examine the four combinations of conditions that these measures may provide. Table 4 presents the estimates from the subsamples defined by both associating with deviant peers and attitudes. Among the low associating with deviant peers and low attitude subsample only one measure was significant (i.e., moral attitudes toward software piracy). In the high associating with deviant peers and low attitude subsample, none of the measures are significant. The low associating with deviant peers and high attitude subsample has two measures that are significant (i.e., moral attitudes toward software piracy and computer use). In the high associating with deviant peers and high attitude subsample, moral attitudes toward software piracy and age are significant. It is important to note that low self-control is significant.

Table 4. Software Piracy: Deviant Peer Association and Attitude Subsamples

Measure	Low Attitudes/ Low Deviant Peer Association			Low Attitudes/ High Deviant Peer Association			High Attitudes/ Low Deviant Peer Association			High Attitudes/ High Deviant Peer Association		
	b	B	SE	b	B	SE	b	B	SE	b	B	SE
Self-Control	.01	.05	.02	-.00	-.01	.03	.01	.09	.01	.03*	.19	.02
Moral Beliefs	-.43*	-.38	.12	-.30*	-.22	.27	-.32*	-.30	.10	-.49*	-.51	.09
Gender	-.12	.04	.27	-.43	-.19	.45	.07	.03	.19	-.21	-.10	.20
Age	.01	.04	.02	-.09	-.24	.08	.03	.07	.03	.13*	.26	.04
Computer Use	-.04	-.08	.05	.07	.14	.10	.21*	.37	.05	.08	.12	.06
f	3.98*			1.09			7.77*			11.58*		
R^2	.18			.19			.25			.43		
N	100			30			104			82		

*p<.05

Discussion

The purpose of this study is to determine if low self-control effects software piracy and if social learning theory conditions the effect that low self-control has on software piracy. To make this examination, this study expects low self-control to have a link to software piracy and that social learning theory conditions the effect that low self-control has on software piracy. From the baseline model, the findings from this study show that low self-control does have a link with software piracy. This is similar to other studies that show low self-control has a link with several forms of criminal behavior (see Pratt & Cullen, 2000 for meta-analysis). Thus, this finding expands the scope of self-control theory by explaining an emerging criminal behavior in the most problematic group: college students. This finding suggests that college students with low self-control cannot resist the temptation of pirating software that they are interested in, because they do not see the consequences of their behavior.

Further, the findings from the baseline model show that social learning theory measures are important in understanding software piracy. Similar to Skinner and Fream (1997), associating with deviant peers is important for individuals committing this crime. This suggests that friends are effective in challenging an individual or sharing information about committing software piracy. Also, the findings suggest that positive attitudes toward software piracy are important in performing the behavior. These findings are similar to other studies (see Skinner & Fream, 1997; Eining & Christensen, 1991; Logsdon, et al., 1994; Reid et al., 1992; Skinner & Fream, 1997; Rahim et al., 2001). Overall, these findings support the partial examination of social learning theory, in that individuals will learn to commit software piracy from friends and they will have attitudes that are favorable to committing software piracy. In addition to supporting social learning theory, the findings from the baseline model provide support for the growing literature that shows social learning measures remain significant in tests of self-control theory (see Pratt & Cullen, 2000; Winfree & Bernat, 1998; Evans, Cullen, Burton, Dunaway, & Benson, 1997; Gibson & Wright, 2001).

The findings from conditioning estimations show that associating with several deviant peers conditions the effect that low self-control has with software piracy similar to other studies (see Wright et al., 1998; Gibson & Wright, 2001). In separate analysis, high levels of positive attitudes toward software piracy provided similar results. This is a new finding in the self-control theory literature that suggests that social learning measures other than peers serve as important conditions for low self-control. Further, this finding supports Evans et al.'s (1997) contention that criminal behavior is exacerbated by exposure to criminal values. Additional analysis shows that high levels of positive attitudes toward software piracy and associating with several deviant peers does condition the effect that self-control has on software piracy. In fact, this combination allows low self-control to have its largest effect on software piracy, thus suggesting that understanding why individuals pirate software is very complicated and requires an understanding about individual propensities, associations with peers, and attitudes.

The study also shows that moral beliefs toward software piracy have an important link to software piracy. Importantly, the finding shows that the moral belief in the behavior may inhibit some individuals from pirating software. This finding is consistent with the literature on moral beliefs towards software piracy (see Swinyard et al., 1990; Kini, Ramakrishana, & Vijayaraman, 2003; Glass & Wood, 1996; Seale et al., 1998; Thong & Yap, 1998; Wagner & Sanders, 2001). In addition, this finding is consistent with a large amount of the rational choice literature in criminology that shows moral beliefs to be an inhibitor to criminal behavior (Bachman, Paternoster & Ward, 1992; Nagin & Paternoster, 1993; Piquero & Tibbetts, 1996). The findings of this study show that individuals view software piracy as a moral issue.

The findings from this study have policy implications. Specifically, these findings suggest that enhancing educational messages that target the role of peers and attitudes in software piracy need to be available to individuals in this age group. Such messages should emphasize the morality of software piracy. While not exhaustive, implementing such a campaign may be helpful in reducing the incidences of software piracy. In addition, if colleges and universities make an effort to educate their student bodies, they may reduce their liability in software piracy cases.

Although these findings provide valuable information that researchers may not be familiar with about software piracy and suggest policy implications, the study has some limits. First, the sample consists mostly of white students from an eastern college. Thus, it may not be possible to generalize the findings across all college students on these grounds. However, the literature suggests that self-control theory and social learning theory are predictors of criminal behavior across several college student samples. Second, the study used one vignette of software piracy, capturing a small part of this behavior. On the other hand, Shore et al. (2001) argued that capturing software piracy using typical self-reports would not provide accurate results.

Despite the limits, the present study provides an understanding of college students' software piracy. In particular, the findings suggest that low self-control is important in explaining software piracy. Further, the findings suggest that social learning theory measures condition the effect that low self-control has on software piracy. Future studies that expand the scope of software piracy and social learning theory measures would be particularly useful. For now, the present study supports the use of low self-control and social learning theory in software piracy studies.

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Appendix A

Scenarios of Software Piracy

You received approval at work to purchase a $125 personal scheduling software package. This package helps you schedule appointments, prioritize jobs that need to be done, and maintain telephone and e-mail lists. Today, you received the package and loaded it onto the PC at work. It looks better than you expected. So, you take the software home and load it on your home computer. A friend visits and admires the scheduling software package. Your friend then asks you to make a copy so they can take it home and use it on their personal PC.

Software Pirating Peers

How many male friends, that you have known the longest, copied software without paying for it in the last 12 months?

How many of your best male friends copied software in the last 12 months without paying for it?

How many of your male friends, that you are around the most, copied software in the last 12 months without paying for it?

How many female friends, that have you known the longest, copied software without paying for it in the last 12 months?

How many of your best female friends copied software in the last 12 months without paying for it?

How many of your female friends, that you are around the most, copied software in the last 12 months without paying for it?

Attitudes Toward Software Piracy

I do not think it is okay to use copied software because it may create a negative image.

I think copied software helps people, including me, save money.

I think it is okay to use copied software to improve my productivity.

I see nothing wrong in giving friends copies of my software in order to foster friendship.

I think it is okay to use copied software if it improves my knowledge.

I think it is okay to use copied software because the community at large is eventually benefited.

I believe that copying software helps to increase my computer literacy.

I think it is okay to use copied games software for entertainment.

I see nothing wrong in using copied software if it is badly needed for the success of a project.

I think it is okay to use copied software for research purposes, because everybody shares the benefits.

I think copying software is okay to punish software publishers who charge high prices.

Computer Use

How many times in the last two weeks did you use personal computer software packages, such as spreadsheets, word processing (e.g., Word, WordPerfect, or etc.) or databases?

How many times in the last two weeks have you used the Internet?

How many times in the last two weeks did you use your e-mail?

Footnotes

[1] The sample development followed the procedures from several published studies from the self-control theory and social learning theory literatures (see Gibbs & Giever, 1995; Higgins, 2002; Nagin & Paternoster, 1993; Piquero & Tibbetts, 1996; Krohn et al., 1985) and the software piracy literature (see Solomon & O'Brien, 1990; Sims et al., 1996; Hollinger, 1988; Husted, 2000; Hinduja, 2001).

[2] Scenarios provide researchers with an opportunity to capture information in controlled settings across all subjects. Important to Gottfredson and Hirschi's (1990) theory is opportunity. In this study, the scenarios provide the student with access to the software and the means to pirate the software making opportunity equal for all of the students in the study (Bichler-Robertson, Potchack, & Tibbetts, 2003).

[3] Some may argue this measure has problems with validity (see Piquero, MacIntosh, & Hickman, 2000; DeLisi, Hochstetler, & Murphy, 2003; Weibe, 2003). They would charge this measure does not form a unitary trait. However, others show that the attitude measure does form a unitary trait (see Nagin & Paternoster, 1993; Piquero, Gibson, & Tibbetts, 2002; Tittle, Ward, & Grasmick, 2003). Further, some studies show the measure performs as well as the recommended behavioral measures (Pratt & Cullen, 2000; Unnever, Cullen, & Pratt, 2003; Tittle, Ward, & Grasmick, 2003).

[4] The questions vary in intensity to gather a more complete understanding of the peers with whom the individual associates. This measure may not accurately capture the full range of differential association measures (see Mazerolle, Burton, Cullen, Evans, & Payne, 2000). However, research of differential association contains several studies that use similar measures to these (see Akers, Krohn, Lanza-Kaduce, & Radosevich, 1979; Krohn, Skinner, Massey, & Akers, 1985; Winfree, Griffiths, & Sellers, 1989; Skinner & Fream, 1997; Reed & Rose, 1998; Akers & Lee, 1999). In addition, the measure captures the exposure to deviant attitudes similar to other studies that use deviant peer association as a control variable in self-control theory (see Evans et al., 1997; Winfree & Bernat, 1998; Burton, Cullen, Evans, Fiftal-Alarid, & Dunaway, 1998).