Digital Piracy and Stealing: A Comparison on Criminal Propensity

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Abstract

Digital piracy is compared to stealing by copyright holders. However, research has consistently found that perpetrators never viewed digital piracy as immoral or unethical, as they would view stealing. This paper offers a direct comparison in terms of digital piracy propensity and stealing propensity to examine whether these two criminal propensities are essentially the same thing, and whether a tendency to justify digital piracy stems from a low level of general morality. The findings seemed to suggest a variation in criminal propensity. Low morality did not always account for digital piracy propensity.

Key Words: Digital Piracy; Stealing; Morality; Propensity; Internet.

Introduction

Is digital piracy the same as stealing? On the one hand, some people assert digital piracy is no different from stealing property from the owner (RIAA, n.d.). On the other hand, some people would argue digital piracy might not be regarded as theft (Seale, Polakowski, & Schnieder, 1998; Hill, 2007). A concept of virtual criminality has been put forth to suggest that considering the unique features of cyberspace, cyber crime may represent a unique criminality that is different from street crime (Graboski, 2001; Capelleer, 2001). It seems to imply some criminals are only prone to commit crime in cyberspace because of its special virtual settings, while in the physical world these people tend to be law–abiding due to the self–restraints that are somehow attenuated in the cyber world (Jaishankar, 2008). The study of psychology in cyberspace has confirmed this notion to some extent. A disinhibition effect has been suggested to explain why and how people might behave differently online (Suler, 2004).

To date, there have been quite a few research studies done to explain digital piracy behavior. They mostly paid attention to the root causes or criminogenic factors. However, there seems to be a lack of more straightforward examinations that directly address the difference or similarity between digital piracy and stealing. This is to say, instead of trying

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to explain why digital piracy and stealing are the same or different, perhaps a simpler but crucial direct comparison is warranted before any assumption is taken for granted.

In this paper, the focus was on a direct comparison between the propensity for committing digital piracy and that for stealing. The subject is criminal propensity rather than criminal behavior, for there could be too many mediating factors that can prevent a propensity from transforming into an act. In contrast, criminal propensity may more directly reflect a person's true intent, even without an actual act. This does not follow this must be a better approach. It merely offers a different look at this subject matter. The question seeking answers was whether when people have a propensity for digital piracy they will always have a propensity for stealing as well. As simple as this question may sound, it is important, because if criminal-minded people are not always prone to stealing and digital piracy at the same time, there must be something that distinguishes these two offenses. Morality was chosen in the current project to shed light on this possible distinction between digital piracy and stealing.

Literature Review

While the perpetrators of digital piracy have a different view on its definition, in the literature related to digital piracy, digital piracy was automatically defined as stealing. For example, Tan in his study of consumers' moral intensity and intention to use pirated software described software piracy as stealing copyright software (Tan, 2002). In a computer science study, software piracy was seen as a form of intellectual stealing (Rahim, Seyal, & Rahman, 1999). Glass and Wood (1996) in their study also pronounced software piracy stealing. The same view can be found in studies on music piracy as well (d'Astous, Colbert, & Montpetit, 2005; Fox & Wrenn, 2001). In light of this point of view, music piracy is equivalent to stealing music.

Contrary to the aforementioned studies in which digital piracy is readily regarded as stealing, there is another view in the literature that asserts digital piracy is not theft or stealing, or at least it is not being considered the same as stealing. McGreal (2004) argued that copyright infringement is not stealing and copyright controllers intentionally use 'steal' or 'theft' to draw a parallel between digital piracy and the acts considered evil by most people. He further posited that infringement does not involve taking control over copyright or depriving its owner of it, which by definition is not consistent with stealing in which property is taken away (McGreal, 2004). Some researchers found the reason why software piracy is prevalent in certain workplaces is that the workplace ethics do not view digital piracy as theft (Seale, Polakowski, & Schnieder, 1998). Another common finding in research is that digital piracy is most pervasively found among college students (LaRose & Kim, 2007; Higgins, Fell, & Wilson, 2006; Cronan, Foltz, & Jones, 2006; Wolfe, Higgins, & Marcum, 2008; Skinner & Fream, 1997), whereas college students are not usually described as the typical thieves.

If there is indeed something that makes digital piracy separate from stealing in many people's perceptions, morality or ethics seem to stand out in research findings as a factor that influences people's intention to commit digital piracy. Tan (2002) found consumers' moral judgment and moral reasoning influences their intention to purchase pirated software. Logston and colleagues (1994) hypothesized that the higher a person's moral judgment is, the less likely the person will approve or engage in digital piracy, but they found very limited support for this hypothesis. They concluded digital piracy seems to be an issue lacking moral intensity. Higgins and colleagues (2008) found that people tend to

apply neutralization techniques to detach themselves from moral constraints when it comes to digital piracy. In other numerous studies, moral variables also appear to be a significant factor and suggest that many individuals do not perceive digital piracy as a moral or ethical problem (Peace, Galletta, & Thong, 2003; Cronan & Al-Rafee, 2008; Kini, Rominger, & Vijayaraman, 2000; Kini, Ramakrishna, & Vijayaraman, 2003, Kini, Ramakrishna, & Vijayaraman, 2004; Lysonski & Durvasula, 2008; Stephens, Young, & Calabrese, 2007; Ingram & Hinduja, 2008).

Concisely, research findings overwhelmingly suggest digital piracy very often is not being regarded as a moral issue, and this lack of moral inhibition does contribute to the intention of digital piracy. In contrast, there is no evidence suggesting stealing is viewed in the same way. This shows that many people do not seem to conceptualize digital piracy and stealing in the same category.

The current research was aimed to illustrate this point further, by making a direct comparison between digital piracy and stealing in terms of criminal propensity. Propensity here was defined as the likelihood to engage in a behavior as the person has seriously thought about doing it and believes he or she may do it in the future. An examination based on morality was performed to show whether moral judgment has impact on the propensity for digital piracy or stealing.

Methods

Sample

The sample included students from six universities in the United States. The six universities were drawn based on stratified random sampling method. After acquiring institutional approval, all academic departments in these six universities were contacted by the researcher with a request. Then the department at its own discretion decided whether or not to forward the survey invitation to their students. The survey was conducted online. Since the participation was voluntary and anonymous, it could not be known which university or department respondents came from. However, conceivably respondents had diverse academic backgrounds. It is noteworthy that some professors may have taken the survey, although they were not the intended target. After excluding missing data, there were 501 responses in the sample for analysis. The sample consisted of more females than males. Besides, the age range was wider than normally seen in a sample relying on college students. Table 1 summarizes the description of the sample.

Measurement

There were only a few major variables in the current study. First, criminal propensity was measured for digital piracy and stealing respectively. Two survey items, one of which addressed the self-assessment on the possibility to commit digital piracy in the future, measured the propensity for digital piracy and the other item addressed the thought about committing digital piracy in the past. Two 5-point Likert scales measured them, so the score ranged from 2 to 10. Similarly, the propensity for stealing was measured by two Likert scale items as well. In the current study, digital piracy was defined as unauthorized copying, using, or distributing software, music, or video. Stealing was measured as stealing things from others, regardless of what the thing is.

Table 1 Sample Descriptives

VARIABLES	FREQUENCIES (N=501)	%
Gender		
Female	273	54.5%
Male	207	41.3%
Missing	21	4.2%
Race		
Black/African American	40	8.0%
While/Caucasian	290	57.9%
Asian/Pacific Islander	97	19.4%
Hispanic/Latino	22	4.4%
Other	7	1.4%
Missing	45	9.0%
Education		
Less than high school	1	0.2%
High school	132	26.3%
Bachelor's Degree	169	33.7%
Master's Degree	90	18.0%
Doctoral/Professional	29	5.8%
Other	12	2.4%
Missing	68	13.6%
IT Background		
Yes	64	12.8%
No	347	69.3%
Not Sure	16	3.2%
Not Applicable	3	0.6%
Missing	71	14.2%
Age		
18-24	160	31.9%
25-31	149	29.7%
32-38	51	10.2%
39-45	29	5.8%
45 <	56	11.2%
Missing	56	11.2%
Source		
Online Forums	116	23.2%
Blogs or Websites	8	1.6%
Email from School	267	53.3%
Email from Friends	51	10.2%
Other	25	5.0%
Missing	34	6.8%

Second, morality was measured in two dimensions. The first is general morality measured by 5-point Likert scales. This scale was borrowed from the Socio-moral Reflection Measure-Short Form (SRM-SF). It is a scale designed to measure the development of socio-moral reasoning (Gibbs, Basinger, & Fuller, 1992). SRM-SF assesses moral values, including contract, truth, affiliation, life, property, law, and legal justice (Gibbs et al., 1992). The reliability (inter-rater, test-retest, internal consistency) of SRM-SF has been supported by empirical data (Gibbs et al., 1992; Basinger, Gibbs, & Fuller, 1995; Stevenson, Hall, & Innes, 2004). The correlation between SRM-SF and Moral Judgment Interview (the most prominent measure of moral judgment) was 0.69, which suggests validity (Basinger et al., 1995). Overall, SRM-SF is deemed a concise instrument that can successfully assess moral judgment (Basinger et al., 1995). The scale consisted of 11 items. The score ranged from 11 to 55, and a higher score indicates a higher level of moral judgment.

A separate scale was used to measure moral justification for digital piracy. This scale consisted of six survey items that were designed based on the techniques of neutralization, including denial of victim, denial of harm, condemnation of the condemner, denial of responsibility, and resort to higher loyalty (Sykes & Matza, 1957). Respondents were asked whether they agree digital piracy as previously defined does not really harm anyone, actually helps increase user population, is a result of overpricing, is less of crime because so many people are doing it, and is necessary for poor people. The total score ranged from 6 to 30, and a higher score indicates a tendency to justify digital piracy.

Some demographic variables were measured, including gender, age, race, education level, and IT background. IT background was defined as having a job or major that is related to information technology.

Hypotheses

A list of hypotheses was proposed to test the two criminal propensities at issue. The objective was to provide answers to two research questions. Is digital piracy propensity the same as stealing propensity? Is morality a good predictor for digital piracy propensity as well as for stealing propensity?

- Hypothesis 1: There is a strong correlation between stealing propensity and digital piracy propensity.
- Hypothesis 2: Digital piracy propensity is more prevalent than stealing propensity.
- Hypothesis 3: General morality can serve as a predictor for both stealing propensity and digital piracy propensity.
- Hypothesis 4: Moral justification for digital piracy is a better predictor for digital piracy propensity than general morality is.
- Hypothesis 5: Younger people tend to have a stronger digital piracy propensity.
- Hypothesis 6: People with an IT background tend to have a stronger digital piracy propensity.

Findings
Predictors

The propensity score ranged from 2 to 10. In this paper, it was considered a high propensity when the score is 6 or higher. In light of this standard, of the 501 respondents 300 (59.9%) of them reported a high digital piracy propensity, and 181 (36.1%)

respondents reported a high stealing propensity. The average score was 6.50 and 5.03 for digital piracy propensity and stealing propensity, respectively. Apparently, digital piracy propensity was more prevalent. Moreover, there were 144 (28.7%) respondents who had both propensities high, while 164 (32.7%) people had both low. 156 (31.1%) respondents had only high digital piracy propensity, and 37 (7.4%) had only high stealing propensity. Of the 300 high digital piracy propensities, less than half (48%) of them also had a high stealing propensity, whereas of the 181 high stealing propensities, the majority (79.6%) of them had also a high digital piracy propensity.

The data met the assumptions for running linear regression. A bivariate regression using stealing propensity as the independent variable and digital piracy propensity as the dependent variable revealed a positive correlation between these two propensities at the 0.001 significance level, with an effect size at 0.423. Stealing propensity alone reduced prediction error by 17.9%. While they were certainly correlated, it was not close enough to claim these two propensities were essentially the same concept. Both hypothesis 1 and 2 were supported.

Next, morality came into the analysis. General morality was negatively and significantly correlated with stealing propensity (r=-0.642). General morality served as a significant predictor for stealing propensity, reducing prediction error by 41.3%. In other words, general morality alone explains 41.3% of the variation in stealing propensity. General morality and digital piracy propensity were also significantly correlated (r=-0.344). When using general morality as the sole predictor to predict digital piracy propensity, it appeared to be significant and explained 11.8% of the variation. All statistical significance mentioned above was at the 0.001 level. The results showed the lower one's morality is, the stronger one's propensity is to commit stealing and digital piracy. Without taking anything else into account, general morality seemed to be a better predictor for stealing rather than digital piracy, but it was still a significant one. It should be noted, however, that the sample size (N=501) was rather large and the large sample size might have exaggerated the statistical significance.

When moral justification for digital piracy replaced general morality, a positive correlation was found with digital piracy propensity (r=0.623). Compared to general morality, moral justification for digital piracy was a better predictor as it accounted for 38.8% of the variation in digital piracy propensity. It also served as a significant predictor for stealing propensity. The correlation was 0.443, and *R square* was 0.196. This means the more one finds digital piracy justifiable, the stronger one's propensity is to commit digital piracy or stealing. General morality was also correlated with moral justification for digital piracy (r=-0.404) at the 0.001 level. According to this simple correlation, lower morality did entail better likelihood for a person to justify digital piracy.

To confirm that morality was really a good predictor, a multiple regression was run, first using digital piracy propensity as the dependent variable and three independent variables, including general morality, stealing propensity, and moral justification for digital piracy. Although the independent variables were somewhat correlated, a test for collinearity (Tolerance and VIF) indicated multicollinearity was not a problem, with all VIF under 2 (Mertler & Vannatta, 2005). A backward procedure excluded general morality. Morality did not contribute to any reduction in prediction error. Moral justification for digital piracy appeared to bear most weight in explaining digital piracy propensity. Together with stealing propensity, this model accounted for 41.5% of the variation. This is a slight improvement compared to using piracy justification alone

(38.8%). When age was added into the model, 42.4% of the variation was explained, while general morality was still excluded. Age was negatively correlated with digital piracy propensity (r=-0.193) and moral justification for digital piracy (r=-0.215). It was positively correlated with general morality (r=0.114). The significance was at the 0.01 level but the strength was fairly weak. Thus far, hypothesis 4 was supported but hypothesis 3 was in doubt, because general morality did not seem to predict digital piracy well when other variables were controlled. Hypothesis 5 could be considered supported but the age difference was actually vague in the current study on account of the weak bearing it had on digital piracy propensity (*Beta*= -0.065; *p*= 0.082), despite the fact that it was kept in the regression model.

When stealing propensity was the dependent variable and the independent variables included age, general morality, digital piracy propensity, and moral piracy justification, age was excluded from the model. General morality appeared to be the strongest predictor for stealing, while digital piracy propensity and moral justification for digital piracy were both significant at the 0.01 level as well. Together these variables accounted for 47.2% of the variation in stealing propensity. Compared to using general morality alone (41.3%), this was a fair improvement in reducing prediction error.

The findings derived from aforementioned regression analysis overall suggested stealing and digital piracy propensities are two separate concepts. Digital piracy propensity may not be a direct result of low morality while stealing propensity is strongly associated with low morality. In addition, age may play a certain role in digital piracy propensity whereas in stealing propensity age is not a factor. Digital piracy propensity is more likely to result from the tendency to justify digital piracy using the neutralization techniques, although this justification itself could be related to low morality to some extent.

Group Comparisons

In the following analysis, group comparisons would be taken into consideration. As reported, 156 people in the sample had only digital piracy propensity high, and they would constitute group 1. The 144 people who had both propensities high would be group 2, while those 37 people who only had stealing propensity high would be group 3. The fourth group consisted of the 164 respondents with neither propensity high.

In group 1, where everyone only had digital piracy propensity high, digital piracy propensity was predicted by stealing propensity (positive) and moral justification for digital piracy (positive) (*R square*= 0.286). Age and general morality were excluded. As for the low stealing propensity, it was predicted by digital piracy propensity (positive), piracy justification (negative), and general morality (negative) (*R square*= 0.07). The unusual finding was piracy justification exerted a negative effect on stealing propensity, which means the more one justifies digital piracy, the lower one's stealing propensity would be.

In group 2, all members had both high propensities. In this group, age and moral justification for digital piracy were excluded in the regression model where digital piracy was the dependent variable. 23.2% of the variation in digital piracy propensity was explained by general morality (negative) and stealing propensity (positive). As for stealing propensity, 37.5% of its variation was explained by using digital piracy propensity (positive), general morality (negative), and piracy justification (negative) as the predictors. Piracy justification had a negative effect on stealing propensity in this group as well, and it unusually was not related to digital piracy propensity.

In group 3, only stealing propensity was high. For digital piracy propensity, no predictors could be identified as general morality, piracy justification, age, and stealing propensity were all excluded. This might be due to the small group size (n=32). On the other hand, stealing propensity was strongly predicted by general morality (negative) and age (positive). They reduced prediction error by 64.2%. In this group, older people had a stronger stealing propensity, whereas previously age did not seem to be associated with stealing.

In group 4, both propensities were low. In prediction of digital piracy propensity, age and general morality were excluded. Stealing propensity and piracy justification accounted for 15.3% of the variation in digital piracy propensity. The relationships were both in a positive direction. Digital piracy propensity (positive) and general morality (negative) accounted for 16.7% of the variation in stealing propensity as the predictors. Age and piracy justification were excluded.

Except for group 3, the two criminal propensities appeared to be a good predictor for each other. Stealing propensity was consistently predicted by general morality. When piracy justification became a predictor for stealing, the relationship was negative. General morality was a predictor for digital piracy only in group 2, while piracy justification was insignificant in this group. The overall results indicated although it can be said with certainty that stealing propensity has a lot to do with low morality, the same cannot be said about digital piracy. It is even unclear whether moral justification for digital piracy can always account for digital piracy propensity. This implies when studying digital piracy, there might be a need to distinguish digital pirates further based on their overall criminal propensity. Group 2 features high propensity for two crimes and this criminal propensity could easily extend to more other crimes. It is possible this type of criminal tends to justify all their offenses, including digital piracy, due to low morality. In contrast, for other types of criminal, justifying digital piracy may not be a result of low morality.

Further, a one-way analysis of variance and its post-hoc tests revealed that in terms of general morality, group 4 had a significantly higher mean than group 2 and group 3, but not group 1. Although group 1 features high digital piracy propensity, this high propensity did not seem to result from low morality, since morality was not low in this group. Group 4 also scored significantly lower than all other groups in moral justification for digital piracy. Group 1 and group 3 scored lower than group 2. A higher score means higher tendency to justify digital piracy. This showed group 2 had an especially high tendency, even though as previously indicated, this tendency did not necessarily predict their digital piracy propensity, where group 2 also scored significantly higher than all other groups. Group 1 scored higher in digital piracy propensity than group 3 and group 4. Group 3 and group 4 were on the same low level. Group 4 scored lower than all other groups in stealing propensity, whereas group 1 scored lower than group 2 and group 3. Group 2 and group 3 were on the same high level in terms of stealing propensity. When age was compared, group 4 was significantly older than group 1 and group 2.

Some additional analyses were done using the demographic variables. When gender is concerned, an independent t-test showed gender differences in general morality, moral justification for digital piracy, digital piracy propensity, and stealing propensity. Females scored higher in general morality whereas males had higher criminal propensities, and higher tendency to justify digital piracy. People with an IT background in the current project scored higher in the tendency to justify digital piracy and higher in stealing propensity, but they scored lower in general morality. There was no significant difference

found in digital piracy propensity between people with and without an IT background., which rejects hypothesis 6. There was no obvious racial differences regarding general morality, except the group Other scored significantly higher than all other racial groups. The only racial difference with respect to piracy justification and digital piracy propensity was between Asian and White, where Asian scored significantly higher than White. As for stealing propensity, the group Other scored the lowest, while White scored lower than Asian and Black. Education level did not affect stealing propensity. Compared to High School, Doctoral/Professional scored lower in digital piracy propensity and higher in general morality. In addition, Doctoral/Professional scored significantly lower than all other groups in moral justification for digital piracy.

Discussion and Conclusion

Is digital piracy propensity the same as stealing propensity? According to the findings of this study, it is safe to say they are correlated but it is not appropriate to conclude they are essentially the same. More than half of the people who had high digital piracy propensity did not have high stealing propensity. Given the way propensity was measured, this follows these people had thought about committing digital piracy or believed in the future they may commit digital piracy, but they could not say the same about stealing. This does not support digital piracy is essentially just stealing as many people assert. At least, they were not conceptualized in the same way by potential perpetrators. Furthermore, after group comparisons, we found that stealing was typically correlated with low general morality, but digital piracy was not. Digital piracy propensity was related to low general morality only when it was accompanied by stealing propensity. Group 1 demonstrated high digital piracy propensity and high morality at the same time, when stealing propensity was low. The results also showed that justifying digital piracy might not necessarily be attributable to low general morality. This finding corresponds to the literature suggesting digital piracy lacks moral intensity. However, this should not be misinterpreted as an attempt to legitimize digital piracy. Rather, this calls for attention to address how and why moral people would justify digital piracy, a crime.

Group 2 actually scored the highest on moral justification for digital piracy and digital piracy propensity, and yet these two scores were not correlated in group 2. The induced questions regarding whether the digital piracy propensity in group 1 was not the same digital piracy propensity as in group 2, and hence they could not be predicted in the same way. In group 2, low general morality and high stealing propensity better predicted digital piracy propensity. In fact, the stealing propensity in group 2 and in group 3 was not quite the same, either. In group 3 stealing propensity was predicted by older age and lower general morality, and low general morality alone could explain more than 60% of the variation. In group 2, however, general morality was not as influential although still significant and age became insignificant. The two stronger predictors in group 2, digital piracy propensity and piracy justification, were not even significant in group 3. This implies people can commit the same crime while the underlying criminal propensities are different. A different criminal propensity may require a different explanation.

To sum up, the relationship between morality and digital piracy propensity as well as stealing propensity has been explored. The propensity for digital piracy and for stealing did not seem to be the same, but their interaction needs more examination as the interaction may lead to a new form of criminal propensity distinct from their original ones. The analysis results clearly proved that there is variation in criminal propensity as shown in

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those four groups. How to capture this variation should warrant more attention. Moreover, offender classification needs to take into consideration the underlying criminal propensity, because different propensities can pose different threats. For instance, in the current project, 156 people could commit digital piracy but they are unlikely to commit stealing. In contrast, there were 144 people who could commit digital piracy and also posed a threat as a potential thief. Simply classifying offenders based on what they have done may not be sufficient and may overlook some potential risks.

Also suggested in the findings, first, having a job or major related to IT might contribute to a higher tendency to justify digital piracy, but it did not necessarily result in higher digital piracy propensity. Second, females generally had a higher level of morality and lower level of criminal propensities. Third, education level did not seem to have huge impact on morality or criminal propensity overall, but people with a doctoral degree were less likely to justify digital piracy. Fourth, racial differences were not obvious with respect to morality or criminal propensity. Age did not seem to matter much in the analysis, although it was a predictor for stealing propensity in group 4.

Limitations

First, this study did not include anyone under the age of 18, so juvenile delinquency was not taken into account. If teenagers had been included, the results could have been very different, for the younger generation uses computers much more often for recreational purposes and probably are exposed to greater digital piracy opportunities. These opportunities may turn into digital piracy propensity. Second, in the group comparison, the group 3 consisted of only 37 people. This size was too small, and it possibly affected some group comparison results, because when a sample size is that small, it is hard to assume normal distribution. Third, the models in the current project generally did not explain the majority of the variation in the two criminal propensities. This indicates the lack of other significant predictors that were not addressed in the current project. These missing predictors need to be identified so as to gain a further understanding on digital piracy and its essential difference from stealing.

Finally, to answer the research questions proposed in this project, first, digital piracy propensity is not the same concept as stealing propensity. There is something about digital piracy that makes it more prevalent than stealing, and most people who would consider digital piracy do not consider stealing. However, they may serve as a significant predictor for each other. Second, morality is relevant but not necessary a good predictor for digital piracy. General morality is a good predictor for stealing, and could be a predictor for digital piracy only when both propensities are high enough. When digital piracy is solely considered, moral justification for digital piracy is a better predictor.

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