

THE ETHICS AND ECONOMICS OF FILE SHARING

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ABSTRACT

Electronic music downloads (EMDs) continue to generate controversy in the recorded music industry. In the first several years of the 21st century, sales of pre-recorded CDs plummeted, and were blamed in part on peer-to-peer (P2P) file sharing of songs by individuals. The Recording Industry Association of America (RIAA) has filed suit against thousands of persons engaged in allegedly illegal file sharing. Despite these lawsuits, statistics indicate that the number of songs illegally downloaded continues unabated. The purpose of this paper is to examine the ethics and economics behind file sharing, and to empirically test student attitudes toward illegal file sharing.

INTRODUCTION

Sales of recorded music on CD have steadily declined over the last five years. According to Pearson (2005), while unit sales were 722.9 million in 1995 and 942.5 million in 2000, they fell to 766.9 million in 2004. During that same time, electronic music downloads (EMDs) soared to record levels. Although illegal downloads have flattened out somewhat recently, the number of online music files at file sharing sites rose three-percent in the first one-half of 2005, from 870 million files to 900 million files, according to IFPI (2005).

The Recording Industry Association of America (RIAA) continues to pursue the large offenders with clockwork regularity. For example, in October 2005, 745 persons on 17 college campuses were sued individually for illegal file sharing by the RIAA. This followed similar size batches on August 31 and September 29 of 2005, see RIAA (2005) and Aughton (2005) for further details. These “John Doe” type suits are in addition to the thousands of such suits filed since 2003 of hundreds of additional “named defendant” suits.

Today, over 300 legal music download sites now exist, including Napster, Rhapsody, iTunes, Zune Marketplace, and even Wal-Mart. Sales at these online vendors have grown dramatically since their inception. For example, there were 180 million single track downloads in the first six months of 2005, compared to 157 million in all of 2004, and only 57 million in the first six months of 2004 according to IFPI (2005). So far, Apple has accounted for the majority of this activity through its iPod portable music device. iPod’s accounted for as much as two-thirds of all legal music downloads in 2005. Apple reported it had sold over 1.5 billion songs through its iTunes service as of September 2006.

A recent study by Karaginnis *et al.* (2004) indicates that while the industry is enjoying rising legal music download sales, illegal P2P file sharing has not declined

and may be increasing. Young college students are assumed to be the primary group of offenders according to RIAA, as evidenced by the number of campuses targeted with lawsuits. But no distinction has been made by the RIAA regarding the age groups at these colleges. Are all college students as likely to engage in illegal music sharing and copying? Or is there a higher likelihood that one age group may engage in this activity over another?

The purpose of this study is to examine the file sharing phenomenon and determine current attitudes toward the practice, identifying those most likely to participate in such illegal activities and why. The sparseness of research in this area and the factors that influence illegal music filesharing is evident in Peitz and Waelbroeck (2004), Zentner (2003), and Oberholzer and Strumpf (2004). This study employs data of college students of all ages enrolled in a variety of online courses at a regional university, and reveals that those in the traditional college age (18-24 years) hold widely different attitudes toward illegal music downloads than do their older peers. The views of the college-age group favor the illegal sharing of music files, at the expense of the industry and artist, indicating their ethical standards are set lower than that of non-traditional students. While the older students demonstrated a higher ethical standard than their younger peers, their views still indicate some acceptance of illegal activities such as copying CDs for friends. Overall, the results of this paper suggest the industry has a long way to go in curbing illegal sharing of music.

AGE, ETHICS AND EDUCATION

The idea that ethics will vary by age or generation is not a new one. To some, the cause and effect are clear and direct. For example, Corcoran and Duncan (1979) not only find that older employees have more lifetime experience and knowledge; they have higher standards of ethics. This demonstrates the tenet that experience will cause a person's ethics to grow. The results of this study tend to support the idea that older students feel they have more to lose if they were to be sued for music pirating. With careers and families more likely to be established among the older students, the economic and social risks may outweigh the perceived savings from sharing music files. Furthermore, older students may be in a better economic position to purchase music by virtue of their career standing. While they may not like the retail price of CDs, they may be in a better position to afford them than are traditional college students. In addition to socio-economic explanations for illegal downloads, however, there may be an explanation derived from traditional theories of moral development.

The ideas of moral philosophers such as Kohlberg and Piaget immediately pop into mind. Piaget's (1928, 1953) studies were limited to the idea that children younger than 10 or 11 reason out moral dilemmas differently than older children, but he provided a base on which many, including Kohlberg, would expand.

Lawrence Kohlberg (1973, 1983) expanded on this theory, proposing three levels and six stages of moral development. At the first level, generally considered applicable to elementary school age, people behave because they are told to do so and because they may have some punishment or recourse if not. In the second level, people seek to gain approval by others and, in the second stage of this level, to be law abiding and respond to obligations to others. In other words, they begin to look beyond themselves into the realm of the common good. At the third level, which Kohlberg felt was not reached by most adults, people think more broadly about social

contracts and individual rights, keeping in mind that people may disagree on moral issues and social norms may contradict individual morals. His proposal regarding stage six, though not truly tested due to lack of subjects, was that persons in this stage recognize universal principles of justice, respecting individual conscience over the laws of a particular society. In Kohlberg's model, a person must progress, or grow through each stage in order to attain the next.

These theories have been cited and adapted in many disciplines. The ideas that ethics grow and "ethical maturity" is gained are widespread. Though some authors speak directly to age, the majority, like Kohlberg, utilize the term "maturity," taking into account that not all persons will attain the same maturity level at the same age, see for example Dreyfus (2004). de Mott (2001) defines "ethical maturity" as "accepting full responsibility for one's ethical choices and their consequences." However defined, many researchers have espoused the belief that ethics will differ (i.e. improve) with age or maturity, see Thorne (2005).

The significance of ethical maturity in business education and in successful development of leadership skills has been studied and recognized as important, as it brings with it the ability to properly weigh value obligations and resolve conflicts in values, see Duffield (2000). The idea that today's college students are tomorrow's business leaders remains an important issue. Specifically, in studies regarding hospitality managers, it was shown that younger employees have higher tolerance for unethical behaviors, see Duffield (2000). Another study done regarding students examines the characteristics of "cheaters." It has been found that cheaters are less mature, less reactive to observed cheating, less deterred by social stigma and guilt and less personally invested in their education, see Diekhoff (1996). A 2005 Hudson survey on workplace ethics ties age, as well as race, to persons who regularly witness ethical misconduct in the workplace, and a 2003 study reports that these younger employees (under 30) with lower tenure (under 3 years) are far less likely to report the misconduct that they do observe, see Ethics Resource Center (2000). These ideas are certainly embraced by groups advocating of employment of seniors who regularly cite superior dependability, experience, knowledge, work ethic, appreciation, commitment and social ethic standards of older employees, see Clancey (1999).

The lack of recognition of potential outcomes certainly can have and has had an impact on persons who download music illegally. This article suggests that the fact that the RIAA has the ability to sue an individual does not appear to have an immediate effect on students in general, with even the older age group just slightly on the side of deterrence by lawsuit, and a significantly lower effect on younger students who were basically neutral on the effect of the suits. This is apparently true on other campuses.

A study done by the Business Software Alliance, though focusing on teens and pre-teens, demonstrates the lack of knowledge, or concern, about applicable copyright laws. The study indicates that kids are uncertain about laws prohibiting illegal downloading of software and music, though teens were shown to be somewhat more aware of the laws, indicating the growth factor. Some of the reasons given for justifying illegally downloaded software were lack of money (51%), lots of people do it (33%), no one is hurt (26%), no one told me not to (19%), I won't get in trouble (15%), and my parents say it is okay (8%), see DCD (2004).

However, age alone does not necessarily account for the difference in attitudes. The cultural change that comes with each new generation may contribute significantly and must be taken into consideration in determining treatment of the

problem. If age were the only factor, the attitude of one particular person would necessarily change as that individual ages. This is probably true to some extent. However, this must be combined with the fact that each new generation is confronted with different knowledge, technology, and personal as well as historic experiences throughout their lives than the generation before. These social changes will influence the members' ways of interacting, political and social views, and approach to business decisions as mentioned by Kim and Youjin (2003).

Thus, the individual is imprinted with more of a permanent change in attitude. Numerous studies have been conducted on ethical distinctions between currently living generations, again finding that older generations tend to be more absolutist in recognition of moral rules while younger generations - GenXers and Baby Boomers - tend to be more subjective in their analysis. The result is that pre-Baby Boomers tend to adhere more strictly to codes of ethics and take the safeguarding of client interests more seriously. However, Boomers still tended more toward responsibility to others over themselves than GenXers, see Kim and Youjin (2003). While true Boomers (1946-1964) are accredited with being the first "Me" generation, they stress fairness and common good. The later Boomers, or "GenXers" (1965 - 1983) have put more faith in themselves and peers than in institutions. The youngest generation, sometimes called "Mosaics" or "GenY," has been viewed as being heavily influenced by available technology and constant bombardment of information.

DATA AND HYPOTHESES

Given that the RIAA has primarily targeted university network users in its lawsuits, it follows that the primary alleged offenders are typical college students. As Mello (2003) and Sullivan (2003) indicate, there is definitely an argument that the RIAA has turned to targeting college students because such suits will generate less bad PR for the industry than suits against young children and grandparents. Nonetheless, college campuses are considered a hot bed of illegal download activity with newer high-speed university computer networks adding fuel to the fire, and the issue has become one that some college administrators have had to address.

The university at which this study was conducted has a median age of 26.5, with numerous returning students mixed among the traditional college-age students. This blended student body presented an attractive sample for determining if any age-related differences existed with regard to music downloading practices.

Since the RIAA has not distinguished between the age of college students at the campuses selected for legal scrutiny, no *a priori* assumptions about age-related differences can be made. Thus, for the purposes of this study, it is hypothesized there will be no significant differences in the mean scores between traditional college-age students and older returning students.

This study applies 14 different hypotheses about the ethics of file sharing each stemming from a Likert-type statement in the survey. The data used in this study originated from an online survey that measured music downloading activity of students at a medium-sized regional state university. The survey was announced to students in a variety of business courses including Economics, Business Ethics, Consumer Behavior, and E-Commerce. Participation in the survey was not mandatory, thus rendering a volunteer sample. A population of 252 usable surveys was collected for this study.

A variety of demographic variables were measured, including gender, age, class standing, computer ownership, and internet usage. Respondents were then asked to rate their level of agreement/disagreement with 14 attitudinal statements that measured their views on both illegal and legal music downloading, industry pricing, music sharing, and the threat of being sued. For the purposes of this study, only the age-related demographic variable was tested and compared to responses to the attitudinal questions. With only online students being surveyed, an implicit assumption is that the students will all have at least moderate computer skills, and could thus be considered potential users of either legal or illegal music download sites.

MEAN TEST RESULTS

Respondents were grouped according to their age, with Group 1 consisting of those students in the “traditional” college student bracket (18-24 years). All remaining students were grouped together as 25 and up. The mean scores of their responses to the 14 Likert-type questions were calculated and appear below in Table 1. Individual t-statistics and probability values were also calculated and appear in the Table.

The results show that, of 14 means compared, significant differences exist in 10 of the categories. These differences reveal a major gap in the perceptions and ethics of traditional college-age students. For example, the younger group exhibits strong feelings that it is not wrong to burn CDs for their friends (H1) or download music illegally (H2). Furthermore, this same group feels very strongly that the RIAA should not prosecute people for making these illegal downloads (H3). In addition, the younger group is less likely to endorse the current prices of legal song downloads than their older peers (H4) Their indifference to the prices may indeed reflect their apathy toward paying for music at all.

Both groups demonstrated moderate disagreement with the current price of retail CDs (H5). The younger group showed a modest difference, albeit not significant, in opinion for why file sharing sites emerged in the first place (i.e. the perceived value of CDs, as measured in H6). Both groups feel fairly strongly that the government, nor anyone else, will be able to stop the illegal copying and/or sharing of music any time soon (H7).

Traditional-age college students expressed indifference at the threat of being sued for illegal file sharing, while their older peers showed a moderate level of fear. This difference was significant at the $p=0.05$ level (H8).

Younger college students feel that it is wrong for the industry to make a big deal out of downloading, as evidenced by the significant difference reported for H9, and is consistent with the results reported for H3. If anything, young college students feel that the industry may be a victim of itself and technology, because they view downloading and copying CDs to be so easy that it creates an irresistible temptation (H10). Unless the music label includes anti-copy features on CDs, copying and sharing are simple procedures on any computer. Even with anti-copy features, savvy users will know how to bypass such measures. Furthermore, younger students reported a high incidence of dorm- and house-mates engaging in these illegal activities (H11). The prevalence of these activities may thus be creating an environment in which students come to accept this unethical and illegal behavior as no different from speeding on the freeway when everyone else is doing it.

TABLE 1
SUMMARY OF ATTITUDINAL MEASURER

Hypothesis & Survey Statement	Mean Score Age (18-24)	Mean Score Age > 25	t-stat	p
H1: It is morally wrong to copy CDs for friends	2.12	2.67	3.67	0.000(*)
H2: It is morally wrong to download unauthorized music from the internet.	2.71	3.35	3.68	0.000(*)
H3: The record industry should prosecute those who have downloaded songs illegally from the internet.	1.98	2.80	5.20	0.000(*)
H4: Prices ranging from 88 cents to 99 cents per song download are fair for consumers.	2.97	3.62	4.08	0.000(*)
H5: The retail price of CDs is about right.	2.34	2.39	0.38	0.705
H6: File-sharing sites emerged because the perceived value of CDs was too low in relation to the number of good songs on each CD.	3.43	3.30	-0.74	0.461
H7: The government will eventually be able to put an end to illegal file sharing on the internet.	2.17	2.41	1.56	0.120
H8: The threat of being sued will keep me from illegally sharing files on the internet in the future.	3.04	3.50	2.71	0.007(*)
H9: It is wrong for the record industry to make such a big deal about music piracy.	2.98	2.54	-2.81	0.005(*)
H10: The relative ease of downloading and/or burning CDs makes it too tempting for me to swap music illegally.	3.18	2.57	-3.95	0.000(*)
H11: Other people in my household/dorm have engaged in unauthorized file sharing and/or CD burning.	3.60	2.56	-5.63	0.000(*)
H12: People would burn fewer CDs and share fewer files if the retail price of CDs were not so high.	3.84	3.83	-0.08	0.939
H13: It is OK to burn a "mix CD" of your favorite tunes to give to a friend.	3.96	3.50	-3.32	0.001(*)
H14: I resent the anti-copying features some record labels have started putting on their CDs.	3.25	2.87	-2.41	0.017(*)

Notes: (Strongly Disagree =1 to Strongly Agree =5).

(*) denotes significant at p=0.05 level.

There are 252 total observations of which 146 were traditional college and 106 were non-traditional age.

Both groups agree fairly strongly that if CD prices were not so high, there would be fewer illegal activities (H12), which is consistent with the findings for H5. The lure of saving \$15-18 per CD copied, along with the relative indifference (or lack of fear) for being prosecuted for doing so, create a situation in which the rewards are too great and the threat of punishment too weak.

Both groups reported they feel it is OK to engage in the cultural gift-giving exercise of presenting a friend with a “mix CD” of their favorite tunes, although the younger group favors this practice significantly more so than their older peers (H13). The practice of making “mix” compilations dates back to when recordable cassettes first entered the market (35 years ago), and may be now such a part of our culture that few if any frown upon the practice.

Finally, younger students expressed a significantly higher level of displeasure with anti-copy features some labels put on their CDs. These either cause the student to work harder to make copies, or perhaps take it out on the artist by not listening to their music.

Of particular interest are H1 and H13. Although significant differences were noted between the traditional and non-traditional students, it should be noted that *both* groups feel it is OK to copy CDs for others. The biggest difference between the two student groups appears to be in Internet usage. All students are comfortable with CDs and how to copy them using a computer, but older students appear to have some reservations about using the same computer for sharing files.

THEORETICAL FRAMEWORK AND DISCUSSION

The results reported in this study illustrate that traditional-age college students and their older-adult peers have very different views regarding the sharing and copying of music files. That 10 of 14 attitude statements produced significant differences in mean scores is testament to distinctly different ethical codes governing these student groups.

Although legal music download sales continue to increase rapidly, more work must be done to determine if age differences exist among these customers. The fact that the number of online music files rose three percent in the first one-half of 2005 suggests that illegal downloading has not declined. The findings discussed above, coupled with 2005 trends, hint that the problem is not going away, and instead may be holding its own or even growing.

It is important to understand the reasons for this behavioral difference because, while the RIAA continues its lawsuit bombardment, the effect is questionable at best. The RIAA clearly believes that its strategy of individual lawsuits puts a damper on illegal activity. The pure impracticality of continuing to file suit, 750 or so people at a time when downloads are in the hundreds of millions, does not seem to have deterred the industry. In fact, the random nature of the lawsuits against individuals seems to be an actual strategy. The President of the RIAA, Cary Sherman, has been quoted as saying “Lawsuits are an important part of the larger strategy to educate file sharers about the law, protect the rights of copyright owners and encourage music fans to turn to these legitimate services.” (Martin, 2004) A September 2004 press release found on the RIAA website again emphasizes the organization's position that the lawsuits against university network users are designed to “drive the message to students that unauthorized downloading has consequences” and to make students aware of legal alternatives.

The industry seems to be relying on initial studies from 2003 indicating that use of particular downloading software was down, see Cox (2003) and Pew Internet & American Life Project (2004). These studies have been somewhat preempted by more recent statistics demonstrating that any effect from the lawsuits would be temporary and that illegal downloads continue to grow. Still, the industry continues with a new round of suits filed monthly, with accompanying press releases.

There is a possibility that the suits are doing nothing but raising the ire of consumers, or, worse yet, becoming “old news” to a young generation, if the releases even make it into a bored media. Perhaps there is a better use of the advertising dollar to be determined by looking into what strategies influence different age groups or generations. This idea is discussed in the previous sections.

Music payment evasion is defined as failing to pay legally due purchases for music files. We have discussed some of the reasons for music payment evasion in previous sections of the paper, but now develop a more formal economic model that is based on the income tax evasion model of Rosen (2002). Assume that p is the probability that an individual will have a lawsuit filed against them. This probability increases with more dollars of underpayments and number of illegal files shared. Next assume that there is a marginal penalty (MP) of being caught, and this is also an increasing function. The product of p and MP is equal to an increasing function, and can be defined in this situation as the marginal cost of music payment evasion.

$$MC = p * MP. \tag{1}$$

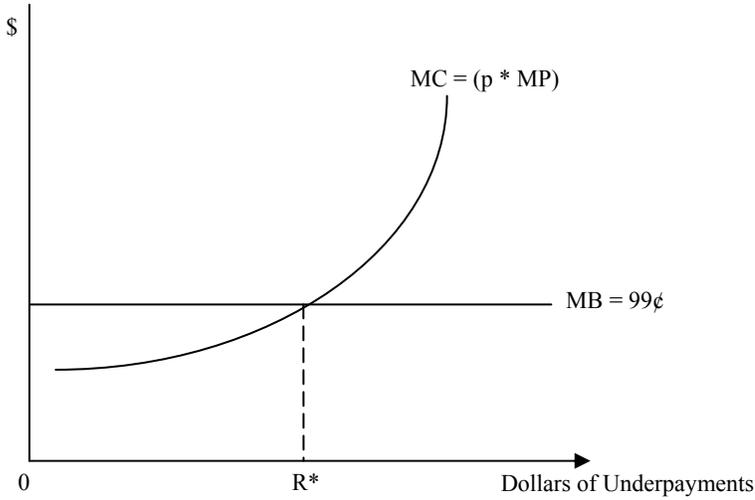
The marginal benefit (MB) of music payment evasion of each file is the amount of money saved, which is roughly 99 cents. Basic behavior theory suggests that the optimal amount of illegally downloaded files is where the marginal cost of music evasion is equal to its marginal benefit. This relationship is visualized formally in Figure 1 where R^* is the optimal number of illegally downloaded/shared files:

According to the model, R^* will increase with an increase in the download cost of music files, with a decrease in the probability of being caught, and with a decrease in the penalty. Other considerations of the marginal benefit curve include the psychic and regret costs of stealing and risk aversion tendencies (age tends to increase risk aversion), and social and cultural stigma of shirking payments. These physiological factors also influence the optimal number of illegally downloaded files, R^* .

ORDERED LOGIT ESTIMATION

To verify the robustness of the means test from Table 1, and to determine what other demographic variables influence perceptions and ethics of illegal music downloads, this article applies an ordered logit model. Given an ethical choice variable of five units (where 1 is strongly disagree and 5 strongly agree) that is inherently ordered, it is appropriate to employ an ordered logit model. Logistic procedures also have the desired characteristic of obtaining maximum likelihood estimates, see Zavolina and McElvey (1975) and Greene (1993).

FIGURE 1
MUSIC PAYMENT EVASION MODEL



As in binary dependent variable models, we apply the observed response by considering a latent variable y_i^* that depends linearly on the explanatory variables x_i :

$$y_i^* = x_i' \beta + \varepsilon_i, \quad (2)$$

where ε_i are independent and identically distributed random variables. The observed y_i is determined from y_i^* using the rule:

$$y_i = \begin{cases} 1 & \text{if } y_i^* \leq \varphi_1 \\ 2 & \text{if } \varphi_1 \leq y_i^* \leq \varphi_2 \\ 3 & \text{if } \varphi_2 \leq y_i^* \leq \varphi_3 \\ 4 & \text{if } \varphi_3 \leq y_i^* \leq \varphi_4 \\ 5 & \text{if } \varphi_4 \leq y_i^* \end{cases} \quad (3)$$

Using the above methodology, ordered logit model of interest for this article becomes:

$$y_i = a_0 + a_1 \text{Gender} + a_2 \text{Age} + a_3 \text{Class} + a_4 \text{Download} + a_5 \text{Pay} + \varepsilon_i, \quad (4)$$

where y_i is the weighted integered average of three moral choices from the survey (specifically H1, H2, and H3 from Table 1), *Gender* is a dummy variable taking the value of unity for female, *Age* is the survey sample's age, *Class* is an ordinal response of class rank (freshman to graduate student), *Download* is the number of songs that the sample has downloaded at free file-sharing sites, *Pay* is the number of songs that the sample expects to pay to download in the next 12 months.

TABLE 2
ORDERED LOGIT ESTIMATION

	Coefficient	z-stat	p
<i>Gender</i>	-0.231	-0.937	0.348
<i>Age</i>	0.359	2.172	0.029(*)
<i>Class</i>	0.035	0.265	0.790
<i>Download</i>	-0.132	-6.554	0.000(*)
<i>Pay</i>	0.051	0.688	0.491

Notes: (*) denotes significant at p=0.05 level. There are 252 total observations. AIC = 2.798. LR Statistic = 73.287. LR Index = 0.203.

The results from equation (4) are reported in Table 2 above. Notice that age remains a positive and significant determinant of moral decision-making. This result reinforces the means test hypotheses from Table 1 and past findings in the proceeding sections. Also, the marginal cost of cheating may increase with age and risk aversion characteristics as mentioned in Figure 1. Another interesting finding from Table 2 is that Gender is insignificant. This can be interpreted to mean that for our sample, female perceptions towards illegal music downloading are similar to their male counterpart. We also find that those who frequently download music for free, Download, have lower ethical standards to pay for music than those who rarely download fee music. We interpret this as a reinforcement mechanism, in that, an individual does not feel compelled to pay (or have regrets for not paying) if they already download music at no charge. Perhaps they feel that the probability of being caught with illegally downloaded music files declines because they already download at no charge. This potentially false sense of security would have the effect of lowering the marginal cost of illegal file-sharing as referenced in Figure 1.

CONCLUSION AND REMAINING ISSUES

The purpose of this paper is to examine the ethics and economics behind file sharing, and to empirically test student attitudes toward illegal file sharing. This study focuses on fourteen ethical hypotheses between students currently 18-24 years, roughly bringing up the tail end of GenX and the going into the first year of GenY, and older students, who could be in any of the other generational categories. The results of this study indicate a significant difference in the perceptions and ethics of illegal file sharing stemming from age.

The results of this study also suggest that the RIAA may need to step up its prosecution of individual illegal file sharers. This approach certainly addresses the issue of consequences. However, it has many drawbacks, including cost and negative publicity. Moreover, the fact that young college students remain virtually fearless about being prosecuted suggests that much more needs to be done, or a different strategy to combat file sharing is needed. As this paper shows, the industry may be better served by analyzing cultural and generational factors in determining proper recourses for illegal file sharing.

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