

# The Impact of Christian Education and Curriculum on Illegal Media File Sharing Attitudes and Behavior

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**ABSTRACT:** *The purpose of this paper is to examine the ethics and economics behind file sharing and to empirically test the role a Christian education has on illegal file sharing. The empirical results are interesting and find that Christian education has no effect on ethical attitudes or actual stealing behavior, and suggest that faculty at Christian colleges and universities cannot assume that discussions about Christian principles and moral attitudes will automatically be seen in the student behavior that follows. Integration of faith perspectives into actual practice likely needs to be intentionally addressed with specific behavioral examples as the discussion points.*

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## INTRODUCTION

Electronic media downloads continue to generate controversy in the recorded music, television, and motion picture industries. For example, sales of recorded music on CDs have steadily declined over the last six 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 half of 2005, from 870 million files to 900 million files, according to IFPI (2005). Also, the Motion Picture Association of America (MPAA) has estimated that illegally copied materials cost the industry \$6.1 billion in 2005, see MPAA (2006).

A recent studies by Karaginnis et al. (2004) and Liebowitz (2006) indicate that while the music industry is enjoying rising legal download sales, illegal P2P file sharing has not declined and may be increasing. According to MPAA (2006), the motion picture industry is also facing rising piracy rates. Young college students are assumed to be the primary group of offenders according to the Recording Industry Association of America (RIAA) and

MPAA, as evidenced by the number of campuses targeted with lawsuits.

No distinction has been made by the RIAA and MPAA regarding which groups are more likely to engage in illegal file sharing activities. Are all college students as likely to engage in illegal media sharing and copying? Are there positive “peer-effects” and “teacher-student effects” from attending a Christian university?

The purpose of this study is to examine the file sharing phenomenon and determine if a Christian education has an impact on student attitudes and practices. The paucity of research on the factors that influence illegal media file sharing is evident in Peitz and Waelbroeck (2004) and Blackburn (2004) and on religion’s socio-economic effects in Iannacone (1998) and Lewer and Van den Berg (2007). To this end, this study employs data from three schools — a public Division II university in the Southwest, a small private Christian liberal arts college in the Midwest, and a historically black college in the Southeast — to test the role of Christian education on college students’ moral attitudes and actual behaviors.

This paper proceeds as follows: Section II details the data and analyzes the survey instrument applied in this paper. Section III develops a media evasion model and discusses the role of Christian schooling on moral decision-

making. Section IV develops the regression model to be tested and reports the empirical findings relating Christian schooling to attitudes and stealing practices. Section V concludes with implications from the findings.

### DATA AND HYPOTHESES

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, television, and movie downloading activity of students at three distinct universities. The survey was announced to students in a variety of fall 2006 courses including economics, ethics, consumer behavior, e-commerce, general management, and organizational behavior. Responses from undergraduate and masters level students were utilized in the sample. Participation in the survey was not mandatory, thus rendering a volunteer sample. A population of 302 complete surveys were collected.

A variety of demographic, religious, and other ethnolinguistic variables were obtained from the survey, including gender, income, age, locus of control (i.e. how strongly people perceive they are in control of their destiny), religious adherence, religious intensity (measured by how many times an individual participates in religious services

in a given month), ethnicity, and school choice.

A more detailed breakdown of the data and religious tendencies of the sample can be found in Table 1. As column two reports, the sample of 302 respondents is broken down somewhat evenly across campuses. Columns three through five ask the respondent to categorize their religious affiliation. This survey applies Adherents.com classifications of religious groupings to compile the three areas: Christian, other religions, and non-religious. The Christian sub-sample is the umbrella of many different Christian denominations, including Roman Catholicism, Orthodox Catholicism, and Protestantism. According to Adherents.com, many different denominations that may or may not share similar creeds and beliefs fall under Protestantism, for example Lutheran and Jehovah's Witnesses both fit into the same category. The other religions category includes the other major world religions, such as Islam, Hindu, Judaism, Buddhism, etc. The non-religious column is designated for those who responded they are either atheist, agnostic, and/or "I have no religious affiliation at present." Columns six and seven follow the work of Terpstra and Rozell (1993) and Barro and McCleary (2002, 2003) in measuring religious intensity as the number of times an individual participates in religious services in a given month.

Table 1: Summary of Data

University	n	Christian	Other Religions	Non-Religious	Christian Intensity (mean)	Other Religions Intensity (mean)
Private Christian	90	76 (84.4%)	8 (8.8%)	6 (6.6%)	3.12	0.24
Public 4-year	124	101 (81.4%)	12 (9.6%)	11 (8.8%)	2.48	0.19
HBC 4-year	88	50 (57%)	32 (36.3%)	6 (6.8%)	1.69	1.06
Total	302 (100%)	227 (75.1%)	52 (17.2%)	23 (7.6%)	2.44	0.46

**Notes:** We applied Adherents.com classification of religious groupings to compile Christian, other religions, and non-religious. Intensity is a categorical variable, indicating how many times an individual participates in religious services in a given month.

As to be expected, the small private Christian college has the highest percentage of respondents who profess to be Christian at 84 percent. It is also not surprising that this group has the strongest intensity of any other group, with the average of the seventy-six Christian respondents attending worship 3.12 times a month. The historically black college (HBC), on the other hand, has the lowest percentage of respondents who adhere to Christian faith at 57 percent and the lowest Christian intensity at 1.69 services per month. The Division II public university has the highest non-religious group at 8.8 percent.

The respondents of the survey were then asked to rate their level of agreement/disagreement with 14 attitudinal statements that measured their views on both illegal and legal music and motion picture downloading, industry pricing, file sharing, and the threat of being sued. We assume that with an online survey 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. The results of the 14 moral attitudes questions can be found in Table 2 below.

Respondents were grouped according to their school affiliation, with Group 1 consisting of those students who indicated they were attending a Christian university. Group 2 consists of students who signaled they were attending a state university.

Hypotheses were stated for each of the 14 Likert-type questions. In each case we hypothesized there would be no significant difference in the mean score of each of the 14 questions between Group 1 and Group 2. The literature is mixed with regard to the influence of religious convictions on attitudes toward unethical business practices, see McNichols and Zimmerer (1985) and Kidwell et al. (1987). We thus did not specify a directional difference in these hypotheses.

**Table 2: Christian University and State University Attitudinal Measures**

Hypothesis & Survey Statement	Christian	State	<i>t</i> -stat	<i>p</i>
<b>H1:</b> It is morally wrong to copy CDs or DVDs for friends	2.66	2.78	0.828	0.409
<b>H2:</b> It is morally wrong to download unauthorized music, movies, or TV shows from the Internet.	3.44	3.26	-1.184	0.237
<b>H3:</b> The record and movie industries should prosecute those who have downloaded songs illegally from the Internet.	2.77	2.66	-0.667	0.505
<b>H4:</b> Prices ranging from 88 cents to 99 cents per song download are fair for consumers.	3.42	3.24	-1.150	0.251
<b>H5:</b> The retail prices of CDs and DVDs are about right.	2.80	2.70	-0.720	0.472
<b>H6:</b> Music file-sharing sites emerged because the perceived value of CDs was too low in relation to the number of good songs on each CD.	3.60	3.54	-0.436	0.663
<b>H7:</b> The government will eventually be able to put an end to illegal file sharing on the Internet.	2.04	2.35	2.102	0.036**
<b>H8:</b> The threat of being sued will keep me from illegally sharing files on the Internet in the future.	2.04	2.35	2.102	0.036**
<b>H9:</b> It is wrong for the record industry to make such a big deal about music piracy.	2.87	3.18	1.941	0.053*
<b>H10:</b> The relative ease of downloading and/or burning CDs makes it too tempting for me to swap files illegally.	2.67	2.51	-1.087	0.278
<b>H11:</b> Other people in my household (roommate, parents, siblings, etc.) have engaged in unauthorized file sharing and/or CD/DVD burning.	3.34	3.03	-1.704	0.089*
<b>H12:</b> People would burn fewer CDs/DVDs and share fewer files if the retail prices of these discs were not so high.	3.64	3.53	-0.763	0.446
<b>H13:</b> It is OK to burn a "mix CD" of your favorite tunes to give to a friend.	4.19	3.72	-3.420	0.001**
<b>H14:</b> I resent the anti-copying features some record labels have started putting on their CDs.	3.22	2.87	-2.433	0.016**

**Notes:** (Strongly Disagree =1 to Strongly Agree =5). \*\* denotes significant at the 5 percent level, and \* at the 10 percent level.

The mean scores of their responses to the 14 Likert-type questions were calculated and appear in columns two and three of Table 2. Individual t-statistics and probability values were also calculated and appear in columns four and five of Table 2.

The results are interesting and show that, of 14 means compared, significant differences only exist in three categories at the  $p=0.05$  level, and in two categories at the  $p=0.10$  level. The lack of attitudinal differences reveals a similarity in the perceptions and ethics of Christian and non-Christian students. Moreover, both groups' scores indicate a high level of indifference with regard to moral attitudes toward file sharing.

While students in these two groups were statistically indistinguishable on most counts, there were several interesting differences. For example, students from the Christian university hold stronger doubts about the government being able to control illegal file sharing (H7). Furthermore, compared to students at the state universities, these same students were overwhelming in their approval of burning "mix CDs" for their friends (H13), and also resentful of anti-copying features that some labels have started putting on their CDs.

### THEORETICAL FRAMEWORK AND THE ROLE OF RELIGION

#### Media Payment Evasion Model

Media payment evasion is defined in this paper as failing to pay legally due purchases for media files, including music, television, and movie files. While some aspects of media payment evasion have already been discussed in pre-

vious sections of the paper, a more formal economic model that is based on the income tax evasion model of Rosen (2002) is developed in this section.

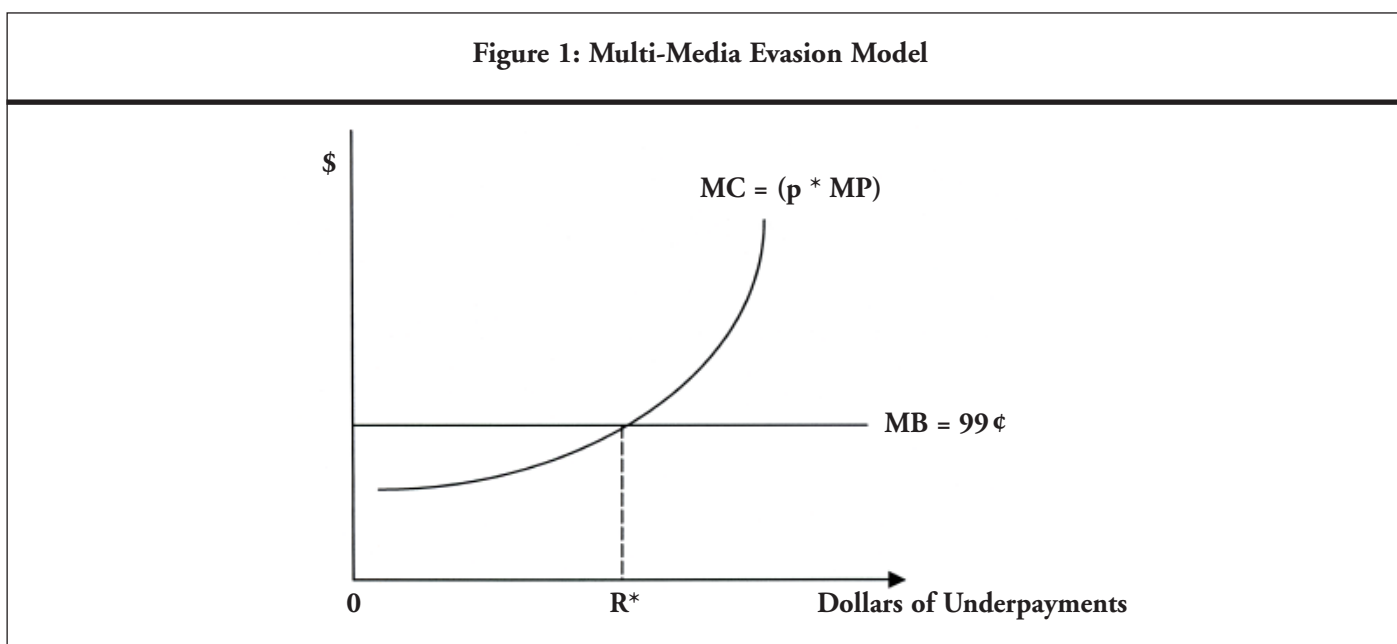
First, assume that  $p$  is the probability that an individual will have a lawsuit filed against them. This probability increases with more dollars of underpayments and number of illegal files shared. Next assume that there is a marginal penalty (MP) of being caught, and that this is also an increasing function. The product of  $p$  and MP is an increasing function and can be defined in this situation as the marginal cost of music payment evasion.

$$(1) MC = p * MP.$$

The marginal benefit (MB) of media payment evasion of each file is the amount of money saved, which is roughly 99 cents for music and \$10-\$15 for movies. Basic behavior theory suggests that the optimal amount of illegally downloaded files is found where the marginal cost of media evasion is equal to its marginal benefit. This relationship is visualized formally in Figure 1 below, 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 media 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 (e.g. age tends to increase risk aversion), and social, religious, and cultural stigma of shirking payments. These physiological factors also influence the optimal number of illegally downloaded files,  $R^*$ .

Figure 1: Multi-Media Evasion Model



How does attendance at a Christian university fit into this model of optimization? Religious culture and institutions are often credited with providing economically friendly incentives that encourage global specialization and exchange, see Smith (1976) and more recently North (2005) and Lewer and Van den Berg (2007). Common religious principles such as honesty, nonviolence, and personal responsibility are supportive of positive economic outcomes, including the promotion of common ethical standards within society, and may impact the perceived marginal benefit (MB) of stealing.

Miller and Hoffman (1995) build on the classic concept of “Pascal’s wager” and find religious behavior to be more risk averse than non religious behavior.<sup>1</sup> This result would seem to indicate that religious adherence may increase the marginal cost (MC) curve in Figure 1, and that the size of this impact may be reflected in intensity of belief. The simple means test from Table 2 does not necessarily reflect this result, as Christian university students’ response to (H8) — “The threat of being sued will keep me from illegally sharing files on the Internet in the future” — is significantly lower than non-Christian groups. This indicates a higher degree of risk tolerance among the Christian sub-sample. In summary, theory and evidence gives an ambiguous picture of how religious cultures are likely to affect moral attitudes and decision-making. This ambiguity points to the need for empirical analysis.

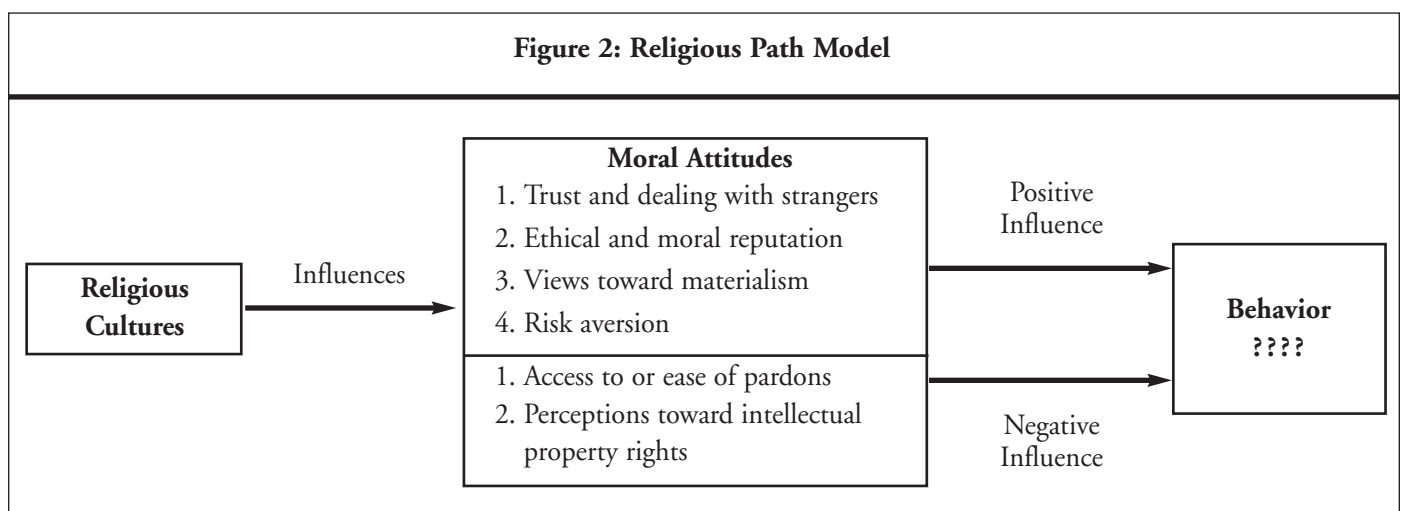
### Religious Cultures Path Chart

As discussed above, theory indicates that religious affiliation may influence moral attitudes and behavior in many complex ways. The path model of Figure 2 below presents an additional visual aid and captures some of the many channels through which religion impacts attitudes and behaviors.

Religious cultures may positively influence moral attitudes toward illegal media file sharing by improving trust. Fafchamps (2003) study on Africa finds that religious cultures serve as a tool that enhances trust and enables trade. Nobel prize winner North (2005) finds that religion as an institution helps people deal with strangers and enhance trust within societies. Religious cultures may also positively influence attitudes by providing incentives for individuals to maintain their reputations. For example, Adam Smith (1976[1776]) argues that religious participation was a rational device by which people enhanced their reputations. Specifically, the marginal cost of stealing may be higher for those with reputation. Lastly, Lewer and Van den Berg (2007) find that religious cultures emphasize spiritualism over worldly possessions, which may decrease the marginal benefit from stealing.

Religious cultures may negatively influence moral attitudes toward illegal media file sharing by reducing trust. Blum and Dudley (2001) and McCleary (2002) have argued that contractual defaults are more common in countries where the sacrament of penance permits people to obtain pardons for their sins at any time and thus may lower the perceived cost of violating a contractual agreement. McCleary also indicates that some religious cultures emphasize the vertical bond with the Church rather than a horizontal bond with fellow citizens, which could reduce people’s trust in others. Van den Berg (2001) finds that some religious cultures are less friendly to the institutions of patents and intellectual property rights than others.

The path model supports the idea that there are many channels of influence through which religious adherence impacts moral attitudes and behavior. As with Figure 1, the path model points for a need to empirically test the relationship.



## EMPIRICAL FRAMEWORK AND RESULTS

To verify the robustness of the various hypothesis tests from Table 2 and to determine what other economic and social variables influence perceptions and behavior toward illegal media 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).

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  $x_i$ :

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

where  $\varepsilon_i$  are independent and identically distributed random variable. The observed  $y_i$  is determined from  $y_i^*$  using the rule:

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

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

$$(4) \text{Copy} = \alpha_0 + \alpha_1 \text{Gender} + \alpha_2 \text{Age} + \alpha_3 \text{Marriage} + \alpha_4 \text{Income} + \alpha_5 \text{Locus of Control} + \alpha_6 \text{Christian university} + \varepsilon_i,$$

where Copy is the integer value from H1 (i.e. "It is morally wrong to copy CDs and DVDs for friends"), Gender is a dummy variable taking the value of unity for female, Age is the survey respondent's age, Marriage is a dummy variable taking the value of unity for married, Income is the respondent's income, Locus of Control comes originally from Rotter (1966) and is the average of 29 questions regarding the degree in which an individual believes he/she has control over the outcomes of his/her life, Christian university is a dummy indicating unity if the individual respondent indicates they attend a Christian university.

For robustness reasons, we also re-ran equations (4) and (5) with Download a one-to-five integer value from H2 (i.e. "It is morally wrong to download unauthorized music, movies, or TV shows from the Internet") as the

dependent variable. The results are reported in columns two and three of Table 3 below:

$$(5) \text{Download} = \alpha_0 + \alpha_1 \text{Gender} + \alpha_2 \text{Age} + \alpha_3 \text{Marriage} + \alpha_4 \text{Income} + \alpha_5 \text{Locus of Control} + \alpha_6 \text{Christian university} + \varepsilon_i.$$

Of particular interest to the researchers in this study is the investigation of the impact of a curriculum within the framework of a Christian college or university on the moral attitudes of its students. According to Holmes (1987),

"The Christian college is distinctive...because we live in a secular society that compartmentalizes religion and treats it as peripheral or even irrelevant to large areas of life and thought...The Christian college refuses to compartmentalize religion" (1987, pp. 9).

The curriculum at a Christian college or university is designed to emphasize the integration of faith into the students' process of thinking, learning, and ultimately, practice or behavior, see Schaeffer (1983), Holmes (1987), Hill (1997), and Lantos (2002). Through curricular focus on ethics or morals grounded in Christian principles, it is desired that the moral attitudes of students in this environment will be impacted to the point of significant difference from the attitudes found in students who study in a curricular environment that is more secular. However, Christian curriculum and faculty are competing with a culture that differs from them. Students in Christian colleges have ethical beliefs and moral attitudes strongly influenced and shaped by the dominant secular culture, see Jung and Kellaris (2001).

"The modern curriculum is characterized as 'the transmission of information, content, processes, and skills from [a specialized] elite authority to the student [and...] ability to absorb [these] via reading and writing abilities constitutes initiation into the academic dialect...most American students born after 1960 and with normal media exposure have postmodern social characteristics...These characteristics include a leveled view of authority and the importance of their own opinion, a belief that experience is more important than knowledge, an avoidance of pursuit for deeper meanings, a preference for passiveness, and a consumer orientation to almost everything" (McCracken, 1987 as referenced by Logue, 1999, pp. 204.)

Much of the emphasis in college or university curricular materials for ethics and moral education emphasizes an applied approach. One criticism of this emphasis is its insis-

tence that the curriculum must continually allow students to make up their own minds which raises some concerns about what conclusions will be reached when forming moral attitudes, as mentioned in Lantos (2002). “Without acknowledgment of the moral dimensions...we risk creating informed cynics who know the price of everything and the value of nothing” (Wiley, 1987, pp. 3). The curriculum in a Christian college or university setting is designed to not only acknowledge the moral dimension but to intentionally emphasize and integrate it into the learning process.

Table 3 reveals only two factors that are consistently associated with higher moral attitudes: age and having an internal locus of control. The Gender variable is also weakly associated with higher moral attitudes, but the Christian university variable is not significantly different than zero.

The next part of this paper investigates if religious schooling alters the actual behavior of the 302 survey participants. That is, does a curriculum based in Christian principles impact actual behavior of its students?

According to Lantos, “Today’s college students are eth-

ically illiterate. Their professors perpetuate this ignorance because the objective of most ethics educators is aimed toward knowledge and intellectual gymnastics rather than action” (2002, pp. 27). A primary goal of a Christian college is to develop people of character who will practice Christian ethics and apply Christian values and a Christian worldview to the decisions they make, see Hill (1997) and Johnson (1996). The desired outcome for students is that they will not only know “about” Christian values but will consciously permit these values to not only shape their decisions but also be seen in their actual behavior when faced with a situation which calls for ethical reasoning. However, secular processes have a potential impact here as well. According to Logue (1999), the loss of accountability in secular society is an issue here.

“In other words, social forces like language, values, and relationships mold human thought. People do what they do because their culture made them who they are. The natural result? An attitude of ‘It’s not my fault’ and a tendency to do whatever one pleases” (pp. 205).

**Table 3: Logistic Estimation Modeling the Effects of Christian Education on Attitudes Measures and Actual Behavior**

	Equation (4) Copy	Equation (5) Download	Equation (6) Music Piracy	Equation (7) Movie Piracy
Constant	—	—	2.617 (2.43)**	2.045 (1.53)
Gender	-0.036 (-0.16)	0.391 (1.85)*	-0.599 (-2.225)**	-1.055 (-3.43)**
Age	0.569 (3.51)**	0.622 (3.72)**	-0.831 (-4.11)**	-1.015 (-3.19)**
Marriage	0.169 (0.54)	-0.042 (-0.13)	-0.200 (-0.51)	-0.583 (-1.27)
Income	-0.060 (-0.69)	-0.145 (-1.62)	0.161 (1.40)	0.121 (0.99)
Locus of Control	-0.075 (-2.71)**	-0.093 (-3.26)**	0.028 (0.85)	0.041 (0.98)
Christian University	0.155 (0.30)	0.171 (0.75)	-0.095 (-0.34)	-0.281 (-0.81)
AIC	2.976	3.025	1.237	0.947
LR Statistic	30.056**	41.455**	31.818**	29.016**
LR Index	0.033	0.044	0.081	0.096

**Notes:** \*\* denotes significant at the 5 percent level, and \* at the 10 percent level. Quadratic hill climbing procedure yields normalized  $z$ -statistics in brackets. There are 302 total observations. Columns two and three apply ordered logit, while columns four and five use binary logit.

In the survey, individuals were asked if they have ever downloaded music or movies from free file sharing sites; that is, they were asked if they had stolen media files. Using binary logistic estimation, this information was applied to regression equations (4) and (5) and yields two additional equations to test behavior:

$$(6) \text{ Music Piracy} = \alpha_0 + \alpha_1 \text{Gender} + \alpha_2 \text{Age} + \alpha_3 \text{Marriage} + \alpha_4 \text{Income} + \alpha_5 \text{Locus of Control} + \alpha_6 \text{Christian university} + \varepsilon_i$$

and

$$(7) \text{ Movie Piracy} = \alpha_0 + \alpha_1 \text{Gender} + \alpha_2 \text{Age} + \alpha_3 \text{Marriage} + \alpha_4 \text{Income} + \alpha_5 \text{Locus of Control} + \alpha_6 \text{Christian university} + \varepsilon_i$$

where Music Piracy and Movie Piracy are dummies which take the value of one when the respondent indicates they have downloaded songs and movies at free file sharing sites, respectively. The results for equations (6) and (7) are reported in columns four and five in Table 3.

With regards to actual stealing behavior, Table 3 reports that the only two variables that impact stealing are gender and age, indicating that older females steal less. This gender-age combination is consistent with the past findings of Miller and Hoffman (1995), Jiankoplos and Bernasek (1998) and Hallahan et al. (2004).

Many variables have little impact on stealing behaviors, including marital status, income level, locus of control, and whether the student attends a Christian university. Unfortunately, the results in Table 3 indicate that students who attend a Christian school are equally likely to steal media files as others who attend secular institutions. In conclusion, we invoke the words of Sider (2005) who decries the cultural drift of Christian thinking, the result of postmodern relativism. "Society cast aside historic Christian ethical norms" (pp.87). Christians have conformed to the culture, rather than the opposite, thus helping explain how and why students at a Christian university would act and believe no differently from their peers at public state universities.

### CONCLUSION AND DISCUSSION

The purpose of this paper is to examine the ethics and economics behind file sharing, and to empirically test the role a Christian education has on illegal file sharing. This study applies data from an expanded survey given at three distinct universities, and tests student attitudes and behaviors towards illegal media sharing. With a total sample of

302 participants, this article applies means testing and logistic regressions to test several determinants of file sharing, including schooling choice. The paper finds that Christian education has no effect on ethical attitudes or actual stealing behavior.

The results also suggest that faculty at a Christian college or university cannot assume that discussion about Christian principles and moral attitudes will automatically be seen in the student behavior that follows. Integration of faith perspectives into actual practice likely needs to be intentionally addressed with specific behavioral examples as the discussion points.

### ENDNOTES

<sup>1</sup> The relationship between religion and crime rates, drug use, divorce rates, suicide, and health outcomes are analyzed in Freeman (1986), Cochran and Akers (1989), and Lehrer and Chiswick (1993), Levin (1994), and Evans et al. (1995), respectively. More recently, the empirical relationship between religion and economic growth has been studied by Barro and McCleary (2002, 2003), Grier (1997), and Noland (2003).

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