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**Author(s):** Riekkinen, Janne

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# DISSONANCE AND NEUTRALIZATION OF SUBSCRIPTION STREAMING ERA DIGITAL MUSIC PIRACY: AN INITIAL EXPLORATION

Janne Riekkinen, Agora Center & Department of Computer Science and Information Systems, University of Jyväskylä, Finland, [janne.p.h.riekkinen@student.jyu.fi](mailto:janne.p.h.riekkinen@student.jyu.fi)

## Abstract

*Both legal and illegal forms of digital music consumption continue to evolve with wider adoption of subscription streaming services. With this paper, we aim to extend theory on digital music piracy by showing that the rising controversy and diminishing acceptance of illegal forms of consumption call for new theoretical components and interactions. We introduce a model that integrates insights from neutralization and cognitive dissonance theories. As an initial empirical test of the proposed Dissonance-Neutralization model, we estimate a structural equation model based on self-administered survey data obtained from 322 respondents. Our results uncover potential demographic differences in piracy-related dissonance and neutralization. Cognitive dissonance appeared to have more relevance in the behavioural intentions of women. On the other hand, high neutralization was primarily associated with men, and those born during the 1980's. These findings, and the proposed model, are however in need of further validation in the larger context of other factors that influence digital piracy behaviour.*

*Keywords: Music piracy, Music subscription services, Neutralization, Cognitive dissonance.*

# 1 INTRODUCTION

Since the late 1990's, digitalization has been one of the greatest challenges for content industries. Among them, recorded music industry has faced especially drastic changes. Music piracy, defined as the copying or distribution of a music recording without proper permission from the copyright holder, has undoubtedly been a key contributor. It has been well identified that piracy is most common among youth (Gopal et al. 2004), especially boys (Chiang & Assane 2008; Higgins 2006).

However, in developed markets, music piracy appears to have hits its peak in the late 2000's. Since then, subscription streaming services have begun to displace piracy. International Federation of the Phonographic Industry (IFPI) has estimated that the share of fixed-line internet users regularly accessing unlicensed services fell from 26% to 20% between 2014 and 2015 (IFPI 2014; IFPI 2015). It is against this background that we seek to improve the current understanding of the antecedents of piracy behaviour in the subscription streaming era, when legitimate and convenient alternatives to illegal downloading are widely present. This setting has challenged many of the previous arguments for pirating music and thus, generated the need to extend extant theoretical approaches. Especially, the presence of free ad-based alternatives has weakened the justification for piracy and made it more likely that piracy will now cause internal belief conflicts, or cognitive dissonance (Papies et al. 2011).

Neutralization theory has had some impact on digital piracy research (e.g. Hinduja 2007; Ingram & Hinduja 2008; Siponen et al. 2012), but another important theory, cognitive dissonance (Festinger 1962) has gained less attention. A rare exception to this was the study by Redondo and Charron (2013), which explored the consumers' "payment dilemma" in movie and music downloads through cognitive dissonance framework. According to our best knowledge, extant piracy research is thus limited and would benefit from the addition of the cognitive dissonance approach. Our research objective is to address this gap in literature *by introducing a series of effects that integrate neutralization and cognitive dissonance theories in the context of digital piracy*. We will refer to this as the Dissonance-Neutralization model of digital piracy. Given the lack of related prior work, the findings of this study should be interpreted as initial and exploratory.

Given the recent emphasis put on music consumer and pirate segments (De Corte & Van Kenhove 2015; Sinclair & Green 2016), it is necessary to look into the proposed model on a more detailed level, instead of considering all consumers to be alike. Thereby, the additional research questions of this study are formulated as follows: *Are there demographic differences in the strengths of music piracy neutralization and in its effects on music piracy-related cognitive dissonance? And in turn, are there corresponding differences in cognitive dissonance and its effects on music piracy intentions?* We will examine the following segmentation variables: gender, age, and current use of paid streaming services.

In the second section, we introduce the theoretical framework behind our model, and present our hypotheses. Methods are presented in the third, and the empirical results in the fourth section. The fifth section is dedicated to discussion and implications. The final section summarizes the study and discusses its limitations.

## 2 THEORETICAL FRAMEWORK

### 2.1 Cognitive Dissonance Theory

Festinger's (1962) theory of cognitive dissonance is based on an everyday observation: Humans do not like inconsistencies, and when they arise, there is a universal tendency to reduce them. For example, the illegal downloading of copyrighted material often seems to conflict with the laws and values of the society, i.e., such behaviour is not approved. In Festinger's terms, the cognition of one's behaviour (online piracy) and the cognition about the inappropriateness of that behaviour are *dissonant* with each

other. When this is recognized, dissonance arousal takes place. This is followed by the need to reduce dissonance. Three modes of dissonance reduction exist: 1) changing one of the dissonant elements, such as attitude or behaviour, 2) adding consonant cognitions to increase the overall consonance between elements, and 3) decreasing the importance of dissonant elements.

After Festinger, multiple authors have pointed out that cognitive dissonance, despite its name, is not solely cognitive in nature; e.g., Sweeney et al. (2000) conclude that based on evidence, there are distinct cognitive and emotional aspects of dissonance. The cognitive component is the person's recognition that beliefs (about piracy) are inconsistent with a decision (to pirate). This has also been labeled as decision dissonance. On the other hand, the emotional component represents dissonance as psychological discomfort. (Hausknecht et al. 1998.)

We follow this line of reasoning by incorporating the concept of anticipated emotions, previously found in the music piracy literature in Perugini and Bagozzi's model of goal-directed behaviour (Perugini & Bagozzi 2001; Taylor et al. 2009). Wang and McClung (2012) proposed and tested them as an addition to Ajzen's (1991) Theory of Planned Behaviour (TPB). They emphasized the role of guilt, and found that anticipated guilt predicted intentions only for frequent downloaders.

The scales used to measure anticipated guilt and cognitive dissonance seem to contain very similar items (cf. Roseman et al. 1994; Sweeney et al. 2000). The similarities between guilt and dissonance have previously been explored in psychology (Stice 1992) and marketing (Burnett & Lunsford 1994). Based on these, we sought the possibility to subsume guilt into the emotional aspect of dissonance.

## **2.2 Neutralization Theory**

Neutralization theory is originally a criminological theory proposed by Sykes and Matza (1957) to address juvenile delinquency. It is based on the assumption that deep down, the delinquents share the same values as the law-abiding general public. To lessen the guilt of violating the values and rules of the society, the delinquents employ certain verbal and mental techniques. These neutralization techniques also make it possible to continue offending.

In the context of digital piracy, neutralization insights have been most notably put to use by Siponen et al. (2012), who found that techniques "condemnation of the condemners" and "appeal to higher loyalties" predicted software piracy intentions. In earlier criminology literature, Ingram and Hinduja (2008) and Morris and Higgins (2009) have also taken quantitative approaches to music and media piracy neutralization. Additionally, there is some longitudinal evidence that the level of neutralization affects actually occurring music piracy (Higgins et al. 2008).

## **2.3 Research Model and Hypotheses**

As there are both cognitive and emotional aspects of dissonance (Sweeney et al. 2000), it is represented by two different constructs in the model: the cognitive component "piracy concerns", and the emotional component "negative emotions" (Figure 1). As Hausknecht et al. (1998) explicate, the cognitive component precedes the emotional. Thus, we model piracy concerns as antecedents of negative emotions:

*H1: Piracy Concerns have a positive effect on Negative Emotions.*

When such psychological discomfort arises, it prompts the implementation of a dissonance reduction strategy (Elliot & Devine 1994). These represent the third, behavioural dimension of dissonance (Hausknecht et al. 1998). It is closely associated with neutralization, albeit this connection is not always directly spelled out in the literature. However, Redondo and Charron (2013) cite Sykes and Matza (1957) and note the connection by stating that "people neutralize their dissonance". Seen through the lens of cognitive dissonance theory, neutralization functions either by adding consonant elements (such as the technique "appeal to higher loyalties") or decreasing the importance of dissonant

elements (such as “claim of normalcy”). In the case of our model, neutralization techniques are thus tied in to the domain of cognitive dissonance as specific forms of dissonance reduction.

*H2a: Piracy Neutralization has a negative effect on Piracy Concerns.*

*H2b: Piracy Neutralization has a negative effect on Negative Emotions.*

The other option to reduce dissonance is to change one of the dissonant elements, such as the behaviour in question (Festinger 1962). Thus, if neutralization is not sufficient to reduce dissonance to levels that allow for continuation of piracy as before, dissonance components should effectively reduce the intention to pirate.

*H3a: Piracy Concerns have a negative effect on Piracy Intention.*

*H3b: Negative Emotions have a negative effect on Piracy Intention.*

To further study and compare effects of different dissonance components, we will also hypothesize a direct effect from neutralization to intention, as commonly done in neutralization literature (e.g. Siponen et al., 2012).

*H4: Piracy Neutralization has a positive effect on Piracy Intention.*

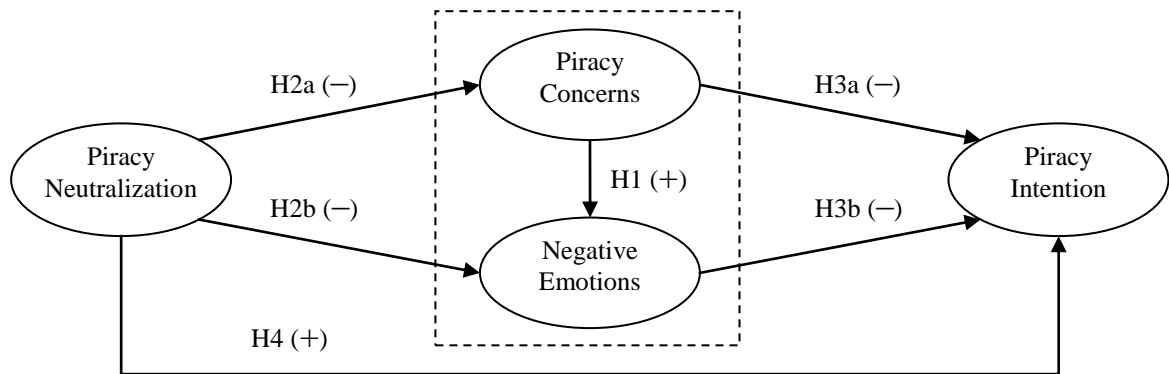


Figure 1. Dissonance-Neutralization theoretical model. Cognitive and emotional dissonance components shown within the box with dashed lines.

### 3 METHODOLOGY

The present study utilized data from a self-administered online survey. Covariance-based structural equation modelling (CB-SEM) was used to estimate a model of music piracy behaviour.

Before the main data collection, a pilot study was carried out during fall 2014. After small adjustments were made to the survey, the main data collection took place in winter and spring 2015. The link to the survey questionnaire was posted to multiple Finnish discussion forums related to lifestyle, music, information technology, and more general topics, with the aim of reaching a wide variety of individuals with different backgrounds. The study was also advertised in social media outlets such as Facebook and Twitter. Links were also published in the email newsletters for faculty, staff and students of a university. In the introductory text, it was mentioned that nine gift certificates worth of 10-50 Euros (150 Euros in total) would be raffled among the respondents.

Combining the pilot and main samples, there were a total of 453 responses, out of which 322 were complete for the purposes of our model. Due to missing values in some of our segmentation variables, the sample sizes for multi-group analyses varied between 317 and 322. The sample was almost evenly split between males (162, 50.3%) and females (160, 49.7%), and had an average age of 31.2 years (median = 27, range = 17–72). 255 respondents indicated at least some piracy experience, 200 of those beyond “just trying it once or twice”. 135 were currently active pirates, and 65 claimed to have quit.

All items were measured using five-point Likert scales ranging from “fully disagree” to “fully agree”. The utilized cognitive dissonance scale (four items for negative emotions, NEMO, and three items for piracy concerns, CON) was initially adapted from Sweeney et al. (2000) post-purchase dissonance scale, supplemented by anticipated guilt items from Roseman et al. (1994) and Wang & McClung (2012). A short four-item scale was used for neutralization, which was treated as a unidimensional construct instead of individual techniques. Piracy intention was measured by three items following the guidelines by Fishbein and Ajzen (2010). English translations for the items, along with their sources, can be found in the Appendix.

The SEM model was estimated using the Mplus 7.11 structural equation modelling software with robust maximum likelihood (MLR) estimator. Full information maximum likelihood (FIML) was used to handle missing values. IBM SPSS Statistics 22 was used for supporting data analyses.

## 4 RESULTS

### 4.1 Reliability and Validity

First, we assessed the reliabilities of our measurement items and scales. Composite reliability and Cronbach’s alpha coefficients for all four constructs exceeded the common threshold of .70 (Table 1). To assess convergent and discriminant validity of the model, the method by Fornell and Larcker (1981) was applied: the average variance extracted (AVE) for each construct should be greater than or equal to .50, and the square root of AVE for each construct should be greater than or equal to its absolute correlation with the other constructs in the model. All construct AVEs and correlations conformed to these conditions (Table 1). When an exploratory factor analysis was run with the intent of extracting only a single component, it explained less than half of variance (44.54%), meeting the conditions of Harman’s single factor test for common method variance.

	<b>CR</b>	<b>CA</b>	<b>AVE</b>	<b>INT</b>	<b>NEUT</b>	<b>NEMO</b>	<b>CON</b>
<b>INT</b>	.978	.979	.937	<b>.968</b>			
<b>NEUT</b>	.836	.848	.561	.395	<b>.749</b>		
<b>NEMO</b>	.932	.932	.774	-.426	-.594	<b>.880</b>	
<b>CON</b>	.767	.765	.523	-.260	-.371	.604	<b>.723</b>

Table 1. Composite reliabilities (CR), Cronbach’s alphas (CA), average variances extracted (AVE), square roots of AVEs (on-diagonal, bold), and correlations (off-diagonal).

### 4.2 Full Sample Model Results

In covariance-based SEM, the traditional way to assess model fit is the chi-square test of model fit. It rejected the model, but it is acknowledged that the chi-square “simply will not fit if the sample size is 50 or more” (Iacobucci 2010). In contrast, three commonly used alternative fit indices supported the model: Hu and Bentler’s (1999) cut-off values of CFI  $\geq$  .95, RMSEA  $\leq$  .06, and SRMR  $\leq$  .08 were all met (Figure 2). Thus, the model fit was acceptable.

H1 was supported, as piracy concerns had a noticeable standardized effect of .445 on negative emotions. Support was also found for H2a and H2b, with effects of similar magnitude. Moving on to effect of cognitive dissonance components on intention, H3a was not supported, as the path estimate was an exact zero. On the other hand, H3b was supported. The clear support of H1 and H3b suggests that the effects of piracy concerns work fully through negative emotions in determining piracy intentions. Finally, H4 was supported, as the effect of neutralization on intention was found to be positive, while not particularly strong at .218 ( $p < .01$ ). The share of variance explained for the primary criterion variable, piracy intention, was 21.3% (Figure 2). Respectively, the cognitive and emotional components of dissonance had 13.8% and 52.4% of their variance explained.

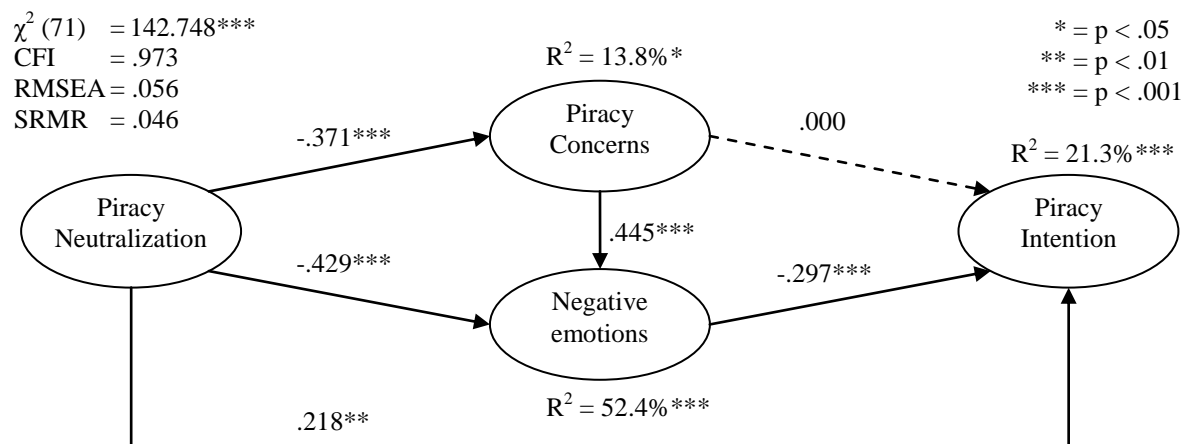


Figure 2. Standardized model estimation results ( $N = 322$ ).

### 4.3 Multi-Group Comparisons: Gender, Age, and Paid Streaming Use

The requirement for meaningful comparisons of subgroups is establishing measurement invariance between those groups. To test it in our sample, we applied the general procedures outlined by Steenkamp and Baumgartner (1998). Instead of relying on the  $\chi^2$  difference test in addressing the changes in model fit, we chose to follow Chen's (2007) recommendations based on changes in CFI, RMSEA and SRMR. Given our total and subgroup sample sizes, the proper condition for rejecting metric invariance was  $\Delta CFI \geq .005$ , supplemented by  $\Delta RMSEA \geq .010$  or  $\Delta SRMR \geq .025$ . For scalar invariance, the criteria were the same, except for  $\Delta SRMR$ , which had a cut-off value of  $\geq .005$ . Following these criteria, partial or full scalar invariance was established for all the studied subgroups (step-by-step analyses omitted, available upon request).

Gender differences in dissonance and neutralization were expected to be present, given the greater piracy participation among males (Chiang & Assane 2008; Higgins 2006).

For age comparisons, the sample was divided to three age groups: 1) "young", born 1990 at the earliest, 2) "middle", those born between 1980 and 1989, and 3) "old", born before 1980. The first group consists of those for whom digital technologies that make digital piracy possible have "always been there"; they are more or less digital natives. The 80's group consists of those who were born during the initial digital revolution - a phase where adoption of those technologies was limited only to innovators and early adopters. Finally, the oldest group has the longest perspective on technological progress and is likely to retain the most norms associated with pre-digital piracy period. This, along with general age-related moral development, suggests possible dissonance-neutralization differences.

Among the sample, there was a clear decreasing trend in piracy behaviour: 89% (65/73) of paid streamer pirates had decreased their pirating activities, versus 71% (90/127) of non-streamers. Thus, we also wanted to compare the streamer and the non-streamer groups in regards to the model.

The unstandardized results of all multi-group comparisons are summarized in Table 2.

	Female <sup>a</sup> (n=160)	Male <sup>a</sup> (n=162)	Young (n=120)	Middle <sup>b</sup> (n=113)	Old (n=84)	Non-str. (n=216)	Streamer (n=101)
H1: CON→NEMO	.652	.562	.544	.623	.565	.511	.623
H2a: NEUT→CON	-.567	-.232ns	<b>-.638</b>	<b>-.219ns</b>	-.533	-.520	-.260ns
H2b: NEUT→NEMO	-.713	-.633	-.657	-.640	-.559	-.546	-.702
H3a: CON→INT	-.040ns	.052ns	-.209ns	.059ns	.249ns	.113ns	-.228ns
H3b: NEMO→INT	-.248	-.322	-.285	-.315	-.265ns	<b>-.513</b>	<b>.130ns</b>
H4: NEUT→INT	.533	.193ns	.418ns	.123ns	.419ns	.234ns	.575

Wald test	7.359 (6), p = .2889		could not be computed			21.387 (6), p = .0016	
NEUT mean	.000	.727	.000	.379	-.049ns	.000	.190ns
CON mean	.000	-.431	.000	-.218ns	-.232ns	.000	-.064ns
NEMO mean	.000	-.484	.000	.039ns	.481	.000	-.263ns
INT mean	.000	.283	.000	.001ns	-.225ns	.000	-.166ns
CON intercept	.000	-.262ns	.000	-.135ns	-.258ns	.000	-.014ns
NEMO intercept	.000	.219ns	.000	.417	.584	.000	-.090ns
INT intercept	.000	.020ns	.000	.020ns	-.019ns	.000	-.255
INT R <sup>2</sup>	.318	.136	.353	.116	.211	.284	.234
CON R <sup>2</sup>	.187ns	.039ns	.286	.040	.168	.185	.053ns
NEMO R <sup>2</sup>	.492	.550	.505	.522	.522	.462	.597
$\chi^2$ (df)	234.433 (160)		419.903 (252)			276.295 (162)	
CFI / RMSEA / SRMR	.971 / .054 / .067		.941 / .079 / .071			.957 / .067 / .059	

Table 2. *Unstandardized multi-group model estimation results. Statistically significant path differences in bold. For identification, construct means and intercepts fixed to zero for one group in each model. ns = not significant at p < .05 level. <sup>a</sup> = partial scalar invariance: intercepts of NEUT4 and CON2 freely estimated. <sup>b</sup> = partial scalar invariance: intercept of NEMO3 freely estimated.*

## 5 DISCUSSION AND IMPLICATIONS

Within IS and management research in media industries (Lugmayr 2013), this study has aimed to contribute by taking a human perspective to the understanding of audiences, specifically in regards to illegal uses of digital music content. Our results suggest that the proposed Dissonance-Neutralization model has nomological validity and is a useful representation of underlying reality: Five out of the model's six hypothesized paths were statistically significant at p < .01 level at least. Specifically, the results revealed that the effect of piracy concerns on intention is fully mediated by negative emotions related to piracy. This supports the sequential view of dissonance presented by Hausknecht et al (1998). Findings also support the argument that emotions should be included in behavioural models of piracy (Taylor et al. 2009; Wang & McClung 2012).

Negative emotions were found to increase with age. As consumers age, other avenues of consumption become more appealing (as income often increases), and piracy is possibly reflected more negatively with age-related moral development. Gender differences in these regards were also noticeable. In line with prior reports of men being more likely pirates than women (Chiang & Assane 2008; Higgins 2006), men's piracy concerns and negative emotions were not as pronounced as women's. This could be at least partially attributed to greater neutralization acceptance among men. In addition to being associated with men in general, high neutralization was more specifically a signature of the 80's age group. They represent a large share of the pirates of early 00's, a period marked with aggressive anti-piracy policies. In form of backlash, these could have contributed to greater neutralization. Despite the emergence of new digital music services, neutralizations still seem to persist with this age group.

Based on supplementary results, greater share of streamers are decreasing their pirating activities. While the same downward piracy trend was also present among others, it was not a drastic. Of note was that streamers would not let negative emotions affect their intention to pirate. Coupled with lower piracy intentions among streamers, this suggests that many streamers have abandoned piracy because it was always merely a utilitarian choice for them (Sinclair & Green 2016), and the current services are favourable substitutes.

This study has implications for further curbing of music piracy. Anti-piracy communications and other interactions with music consumers should be designed to maximize dissonance arousal related to piracy, but at the same time, the message should not be easy to subvert by using mental techniques like neutralization. This involves arguing against the typically used neutralization techniques, such as "claim of normalcy", "denial of the victim" and "justification by comparison" (Riekkinen & Frank



2014). A mix of relatively popular and relatively unknown artists should be used to convey the message. It may be too easy to disregard superstars, despite their apparent influence: They are perceived to do so well financially that invoking “denial of the victim” is likely to be common. Subgroup analyses provide starting points for more tailored strategies. For example, it is probable that attempting to induce negative emotions towards piracy will have more success with women, as they appear to be less likely to agree with arguments used as neutralizations. On the other hand, the 80’s group will remain difficult to reach because of their high neutralization. Fortunately, younger consumers should be more easily reached.

## 6 CONCLUDING REMARKS

The objectives of this paper were 1) to introduce and test a model that integrates neutralization and cognitive dissonance theories in the context of digital music piracy, and 2) to explore the potential demographic differences related to the above model. To meet these objectives, we employed self-report survey data from 322 respondents to estimate a SEM model with multi-group analyses.

The model explained 21.3% of variance in music piracy intention, suggesting that the inclusion of combined Dissonance-Neutralization perspective has potential to deepen our understanding about music piracy in the era of widely available music subscription services. However, the proposed model needs to be further tested in the broader context of other factors that influence piracy, such as the core TPB variables, moral obligation, and prosecution risk (Chiou et al. 2005; Cronan & Al-Rafee 2008). Further, it could also be that the effects of cognitive and emotional dissonance components on piracy are not fully mediated by intention, and some direct effects might be present. To test this assumption, proper post-questionnaire behavioural measurements would be preferred. These efforts would benefit from longitudinal research designs. Similar approaches might also be taken in the context of video piracy, given the similarities and differences of digital music and digital video content markets.

The study comes with a set of limitations. One of them is related to measurement: data for the study was drawn from one cross-sectional sample collected online. There is thus a chance that the results include bias attributable to common methods. Another issue is related to utilized scales, which were adapted from various sources. Rigorous scale development process could not be undertaken for used scales in this specific context. However, with relatively high reliabilities and loadings, the utilized scales show acceptable psychographic properties.

### Appendix: Standardized Loadings, Residuals, and Measurement Items

	Loading	Residual	Measurement Item (English translation)	Source(s)
INT1	.966***	.067***	I plan to illegally download music during the next three months.	Fishbein & Ajzen (2010)
INT2	.962***	.075***	I will likely illegally download music during the next three months.	
INT3	.976***	.047**	I intend to illegally download music during the next three months.	
NEUT1	.742***	.450***	Downloading does not cause harm to artists.	adapted from Siponen et al. (2012)
NEUT2	.737***	.458***	Copyright laws have been formed to benefit of media corporations, and they are far too restrictive from consumer perspective.	based on Hinduja (2007)
NEUT3	.762***	.419***	Downloading is justified, if there is no possibility to acquire music legally.	adapted from Siponen et al. (2012)
NEUT4	.754***	.431***	Compared to other crimes, illegal downloading is not a “true” crime.	based on Cromwell & Thurman (2003)
NEMO1	.899***	.192***	If I were to download music without proper permission during the next three months	Roseman et al. (1994) ; Wang & McClung (2012)
NEMO2	.919***	.155***	... I would feel regret.	
NEMO3	.849***	.279***	... I would feel I am in the wrong.	
NEMO4	.851***	.275***	... I would be disappointed with myself.	
CON1	.682***	.536***	... I would wonder if the downloaded content was what it was supposed to be.	adapted from Sweeney et al. (2000)
CON2	.749***	.439***	... I would wonder if the downloaded content contained viruses or other malicious software.	
CON3	.737***	.457***	... I would wonder if I had been somehow fooled.	

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