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Janne Riekkinen

Streaming Era Digital Media Piracy

An Integration of Three Theoretical Perspectives

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ABSTRACT

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Consumer digital piracy in media contexts is one of the most publicized adverse developments brought on by the Internet and digitization of data. Since the turn of the millennium, it has irrevocably changed the business environment for the creative industries. The sharp decrease of recorded music sales, especially in the physical album format, is perhaps the best example of the negative effects digital piracy. However, the growth of legal services in digital music and video is balancing this trend, as consumers have found that piracy is no longer the obvious solution to acquiring music and video content. This also calls for new approaches to piracy research. We sought them by integrating three theoretical perspectives relevant to the phenomenon: neutralization theory, cognitive dissonance, and the theory of planned behavior.

The articles included in this dissertation utilize both qualitative and quantitative methods, and contain an extended framework of constructs related to digital music and video piracy. The dissertation introduces the mechanism of "dissonance-neutralization" of piracy, i.e., neutralizations tailored to weaken the impact of piracy-induced negative emotions as a mode of dissonance reduction. The results suggest that quality perceptions about legal alternatives can affect piracy neutralizations and attitudes toward piracy. Content remains the most important success factor and differentiator for these services.

Based on the findings reported in the included studies, digital piracy can be combated with communications targeted against commonly used neutralization techniques. However, there are limitations to what this can accomplish, as many consumers continue to hold negative opinions about various industry parties, despite the vast improvements in digital services since the early 2000s. Fortunately, the younger consumer generation, or *Generation Z*, does not seem so attached to these sentiments. In the future, they will for the large part determine the direction of developments. Piracy will remain as a significant factor in the music, television and movie industries for the foreseeable future, but the current trajectories of legal services seem more promising than earlier.

Keywords: cognitive dissonance, consumer behavior, digital content, digital piracy, digital music, neutralization, theory of planned behavior, video on demand

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II Riekkinen, J. 2016. Dissonance and Neutralization of Subscription Streaming Era Digital Music Piracy: An Initial Exploration. In *Proceedings of the 20th Pacific Asia Conference on Information Systems (PACIS)*. Paper 251.

III Riekkinen, J., Makkonen, M., Salo, M. & Frank, L. 2018. Digital Music Piracy in the Subscription Era: An Extended Model from Cognitive Dissonance and Neutralization Perspectives. Unpublished manuscript; to be submitted.

IV Riekkinen, J. 2018. Piracy versus Netflix: Subscription Video on Demand Dissatisfaction as an Antecedent of Piracy. In *Proceedings of the 51st Hawaii International Conference on System Sciences (HICSS)*. Paper 451, pp. 3558-3567.

The articles are presented in chronological order, earliest released first. With the two articles with co-authors (I and III), the first author did the majority of work. With Article I, the co-author provided overall help during the process, and comments and revisions to the original manuscript. With Article III, the co-authors contributed to the initial planning with varying degrees. One co-author helped with the statistical analyses and contributed to the results section. Other co-authors contributed to the introduction, theoretical framework, and discussion sections with comments, expansions, and revisions.

1 INTRODUCTION

This dissertation concerns to the widespread phenomenon of illegal use or distribution of copyrighted content, commonly referred to as digital piracy. This form of deviant consumer behavior is one of the more well-publicized adverse developments made possible by the development of global networks, the digitization of previously analog data, and the continuing digitalization of our society as a whole. The financial impacts of digital piracy on software, media and music industries are considered to be massive. As an example, the European Observatory on Infringement of Intellectual Property Rights reported 5.2% of revenue losses for the recorded music industry in 2014. As direct sales lost in Europe, this amounted to €170 million (Wajsman, Arias Burgos & Davies 2016).[1]

The aim of this dissertation is to study the digital piracy phenomenon particularly in terms of the effects of new legitimate services that have emerged in the fields of digital music and digital video content. These include subscription-based music services (SBMS) and subscription video on demand (SVOD) services. With SMBS and SVOD options present for most consumers around the world, what does the future of piracy and the media industries look like?

The origins of digital piracy research are in organizational or business environments, which both have a long history with software piracy (e.g., Eining & Christensen 1991, Conner & Rumelt 1991, Glass & Wood 1996, Gopal & Sanders 1997). In contrast, the emphasis of this dissertation is on media piracy in the consumer setting, which separates it from the core organizational tradition of information systems research. However, in the increasingly digital societies of today, the consumer perspective has grown to be equally important in many research areas. This is supported by the notable amount of published consumer and individual end-user research in information systems outlets.

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[1] The studies that deal with the economic effects of piracy are outside of the focus of this dissertation, but the most prevalent view among economists is that piracy indeed has a clear detrimental effect on the creative industries (Smith & Telang 2012). However, due to conflicting industry estimates and academic studies, the true cost of pirated content has remained relatively ambiguous.

Software targeted to organizations and media targeted to consumers have commonalities in that both of them are essentially public goods - their consumption utility does not reduce when shared. Their initial production costs are high, while reproduction costs are close to zero. However, there are also a number of key differences between the two. Gopal et al. (2004) list the following five factors when comparing music and software as objects of piracy: *value degradation* - due to compression, digital music copies are inferior to originals, *price differential* - music is considerably cheaper to buy than software packages, *support* - unlike software, not needed for music, *file size*, and *volume*. Today, the first one is debatable, because the available pirated versions of music (and for the matter, video) titles often come in identical quality compared to their legally available versions. The price differential and support arguments are also applicable to video works. Regarding file size, video works are at least in the same ballpark as the larger software packages - considerably larger than music files. While modern software packages have greatly grown in their size, historical software file sizes were rather miniscule compared to high-quality media files. The difference in volume is such that there are far more individual audio files than there are software packages that would be of use for a potential user. It is no surprise that software piracy developed into a major factor for software business quite early compared to media piracy for media businesses.

In the following, we will describe the special circumstances of the two media industries transformed by digitalization: the music industry, affected by the adoption of peer-to-peer (P2P) technologies in the late 1990s, and the film and television industry, affected by the further increased Internet connection speeds and storage spaces during the 2000s. These two constitute the empirical environment for the studies included in this dissertation.

1.1 Digital Music Piracy

Halttunen (2016) describes the development of the field of music and the music industry through the "Digital Era" as three distinct phases. Here, Digital Era refers to the time period starting from mid-1990s, when Internet services first began to reach wider audiences, and digital music to music distributed through online channels, opposed to music in tangible physical formats such as the cassettes and compact discs (CDs).

In the first phase, digital music was distributed through P2P networks, where each node of a network serves as both a server and a client. It was during this time that digital piracy first rose to greater prominence, as P2P technology allowed for faster and more cost-efficient distribution of music files. The move away from illegally copied CDs made piracy far more practical for all the parties involved. Napster, an easy-to-use P2P service started in June 1999, quickly gathered millions of users, and was eventually shut down in July 2001 for copyright infringements. This did little to help with the piracy itself, as other P2P applications rapidly took its place. Among them was the BitTorrent protocol,

which was released in July 2001 and has continued to be very popular to this day.

As the rise of piracy came with a sharp decline in music sales, the industry started to invest in major anti-piracy efforts, and eventually, to legal services offering digital music. The second phase of the Digital Era, starting from the early years of the new millennium, was marked by the introduction of music download stores. Of them, Apple's iTunes Store, launched in April 2003, turned out to be the most successful. Initially, the music sold in download stores was protected with digital rights management (DRM) systems which limited how the music could be played or copied, but after years of strong consumer opposition, the stores eventually dropped their DRM protection. Despite this, music download stores failed to act as a remedy to the rampant piracy and to quickly falling industry revenues. In retrospect, it appears that the industry's reaction time to bring decent legal digital alternatives to the market was too slow, and many consumers became accustomed to pirating their music.

The third phase was marked by introduction of another new business model: streaming-based and subscription-based music services (SBMS). The current market leader Spotify was launched to the public in October 2008, and was followed by competitors with similar services. For a long time, these services struggled with turning free ad-supported customers to paid premium customers (for reference, see Wagner, Benlian & Hess 2014), but eventually, paid streaming has taken hold (Statista 2017b, 2017c).

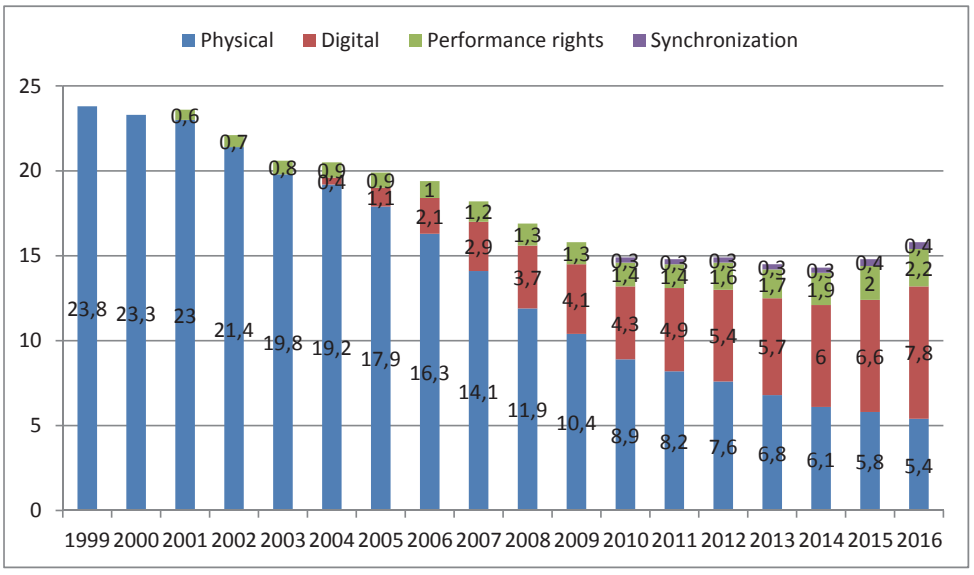

FIGURE 1 Global recorded music industry revenues 1999-2016, US$ billions (IFPI 2017).[2]

[2] "Synchronization" refers to revenue from the use of music in advertising, film, games, and television programs.

During the recent years, global recorded music revenues have finally started to see growth after years of decline and stagnation (Figure 1). This has been fueled by the stiffening competition between streaming providers, and by new, powerful entrants to the streaming market, such as Apple Music and Amazon Music Unlimited. At the same time, download stores and physical formats have continued to lose ground, establishing streaming as the most prevalent and significant channel in the modern recorded music industry. In 2015, the revenues from digital music exceeded the revenues from physical music formats for the first time. In 2017, International Federation of the Phonographic Industry (IFPI) estimated that the number of paid subscription accounts had reached 97 million by the end of 2016, and that streaming revenues had grown 60.4% from 2015. Sony Music's Dennis Kooker went on to call 2016 "a tipping point for streaming and, most importantly, for paid subscription streaming". (IFPI 2017) Arguably, this new era of streaming-fueled growth represents the beginning of fourth phase of the digital era.

Like many of today's online businesses, streaming providers have had hard time turning profit, despite growing revenues. Despite its revenue reaching €2.93 billion, Spotify had a net loss of €539 million in 2016. The company, valued at US$8.5 billion as of March 2017, has in fact registered net losses for the entirety of its existence (Figure 3). (Statista 2017d) Another, still unsolved issue related to the internal struggles of the music industry has been the artists' complaints about poor paychecks from streaming, which has led to some artists pulling their music from streaming services.

The developments in the digital music market have also affected piracy. According to global estimates and market-specific case studies, music piracy has decreased from its peak years. For example, IFPI estimated the share of Internet users regularly accessing unlicensed services as 26% in 2014 (IFPI 2014), and 20% in 2015 (IFPI 2015). As another estimate, a piracy tracking company MUSO has reported overall declines of 5% and 6% for 2015 and 2016, respectively (MUSO 2016b, 2017b). In market-specific case studies, the transformation has been visible earlier. According to consumer research published by GfK in 2013, nine out of ten of Swedish paying Spotify subscribers claimed to download illegally "less often". In the same year, 70% of music revenues in Sweden already came from digital music (IFPI 2014). Another interesting development concerns to how piracy is performed: it is no longer appropriate to only focus on P2P torrent pirates operating from desktop. Direct downloads grew by 31% in 2015, and YouTube stream rippers by 25% (MUSO 2016b). During 2016, mobile music streaming piracy overtook desktop music streaming piracy, and stream rippers continued their growth (MUSO 2017b).

While the decrease of piracy is usually credited to the success of legal SBMS, some academic evidence points to the other direction. A study by Borja, Dieringer, and Daw (2015) found that music streaming actually increased the likelihood of engaging in music piracy by approximately 20%. In a further study, Borja and Dieringer (2016) argued that music streaming acts as a complement to piracy, rather than as a substitute. However, and other research has

established that the relative advantages of legal SBMS over pirate sources promote positive attitudes toward legal SBMS (Dörr et al. 2013)[3], and that positive attitudes toward piracy are linked with lower willingness to try SBMS (Cesareo & Pastore 2014). Such discrepant findings in relation to the above described trend could be due to the general early adopter characteristics of legal music streaming users within those particular study samples (see also Article III of this dissertation).

Yet another interesting development can be observed by simply running a search for the word 'piracy' in IFPI's yearly Digital Music Reports (DMR) and their successors from 2016 onwards, Global Music Reports (GMR). Length and scope-wise, these reports have remained in a similar format during the years. 'Piracy' appeared 90 times in the 2010 edition of DMR, 46 times in 2015, was not mentioned at all in 2016, and returned with eight appearances in 2017 (Figure 2). Notably, these eight referred exclusively to piracy in emerging territories and markets such as China and Africa, where piracy has always been a dominant factor, and legal services are just beginning to take hold.

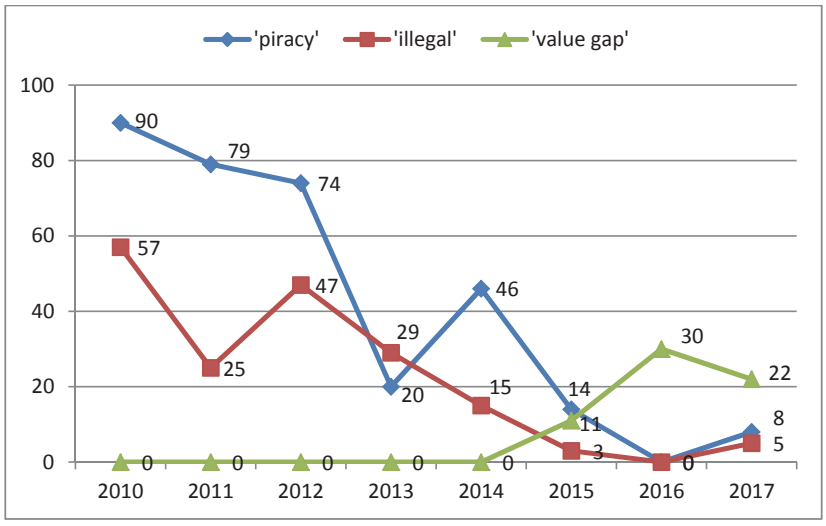

FIGURE 2 The frequency of certain keywords in IFPI's yearly Digital Music Reports (IFPI 2010, 2011, 2012, 2013, 2014, 2015) / Global Music Reports (IFPI 2016, 2017).

Instead, from 2015 onwards, the DMR/GMRs have started highlighting the 'value gap' in digital music as the biggest global threat to the industry's future sustainability. The value gap is formed when digital content platform services such as YouTube and DailyMotion circumvent the so-called "normal rules of music licensing". YouTube is regarded as having the world's largest on-demand music audience, but the revenue returning to rights holders from music accessed through YouTube is a small fraction compared to that accessed through Spotify: in 2015, the estimated revenue returned to record companies

[3] Dörr et al. (2013) use the term Music as a Service (MaaS) when referring to SBMS.

per user for YouTube was less than US$1, compared to US$20 for Spotify (IFPI 2017). In addition, YouTube stream ripping has become increasingly popular, as noted above. Because digital content platform services are backed by huge companies with strong financial and legal resources, the record labels have powerful adversaries in this matter.

Based on the above, it can be concluded the music industry has moved on from viewing P2P piracy as its greatest global threat, as it did in the early phases of the Digital Era. However, piracy is still viewed as an important issue in the lesser-developed markets where legal services are just gaining foothold.

1.2 Digital Video Piracy

Historically, digital video piracy has been more cumbersome than digital music piracy, because the file sizes required to store decent quality video are much larger than those required to store decent quality audio. Thus, the lack of digital storage space and speed of Internet connections limited the attractiveness of pirated copies of films and television programs for a long time. [4]

However, with technological developments such as the BitTorrent protocol, and further broadband adoption during the new millennium, these issues limiting video piracy have subsided, and we have arrived at a situation where by the numbers, video piracy is far more prevalent than music piracy. Unlike music, overall video piracy is growing: in its Global Piracy Insights 2017 report, MUSO reported 102 billion visits (up from previous year's 78.5 billion) to film and TV piracy sites, compared to 34.2 billion visits to music piracy sites (MUSO 2017a, 2017b). In torrent search websites such as The Pirate Bay, video torrents dominate the "Top" lists, whereas music albums are rarely seen among the most popular titles.

While the overall growth trends have been different, many similarities can be observed between these two media: illegal streaming and mobile piracy continue to grow also in the video context. Video piracy of today is markedly dominated by the streaming delivery mechanism, which accounted for 76.5% of all film and TV piracy in 2016 (MUSO 2017a). Legitimate subscription video on demand (SVOD) streaming providers such as Netflix face competition from their "pirate versions" (e.g., Popcorn Time), which may be just as easy to use. While streaming grows, traditional P2P piracy is on a downward path. According to MUSO data, torrent website visits were down 18% in 2015, and further 14.5% in 2016 (MUSO 2016a, 2017a).

Despite the prevalence of video piracy, the movie and television industries did not experience a similar revenue decline as the recorded music industry did.

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4 Some years ago, it was common to distribute music in compressed .MP3 format, where individual tracks would take approximately 3-6 megabytes of space. In comparison, a feature-length film was typically compressed to an approximately 700 MB .AVI file which could be stored within a single CD-ROM disk. With today's high-definition content, pirated movie file sizes are considerably larger than that.

Waldfogel (2017) suggest that they may have been initially protected by their larger file sizes, and also that they learned from the failures of the music industry. After some initial copyright troubles with fresh services such as YouTube (launched in February 2005), the American television networks quickly started broadcasting some of their content online, free of charge.

The current SVOD market is in a rather good shape, as can be seen from the success and growth of Netflix. In the first quarter of 2017, the company had 98.75 million streaming subscribers worldwide - a figure on par with the combined number of all paid music subscription accounts between all music streaming providers at the time. The competitor HBO boasts even greater total numbers when including cable subscription, but its over-the-top[5] SVOD services (e.g., HBO Now in the US, HBO Nordic in the Nordic countries) lag far behind Netflix's numbers. Unlike the music streamer Spotify, Netflix has always managed to turn profit (Figure 3) after introducing its SVOD service in the United States in February 2007 to complement its original DVD rental business. The SVOD service has gradually expanded, opening in many countries in the Americas in 2011, and in Europe in 2012. It is currently available in over 190 countries - nearly "worldwide", but still excluding China, the market with the largest potential in the world. In 2016, the net income of Netflix was US$186.68 million, and its revenue US$8.83 billion (Statista 2017a).

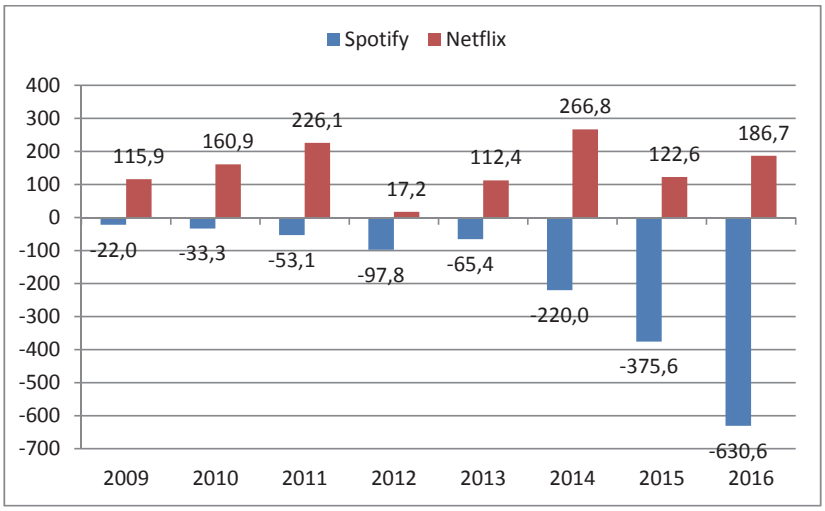

FIGURE 3 Comparison of net incomes/losses of Spotify, a subscription-based music service provider, and Netflix, a subscription video on demand service provider, US$ millions, 2009-2016.[6]

5 In broadcasting, *over-the-top* refers to content transmitted via the Internet as a standalone service without further ties to a multiple-system operator.

6 Data from Statista.com. Using an exchange rate of €1 = US$1.17 (July 27, 2017). Spotify's financial data is originally in Euros.

One of the differences between SBMS and SVOD markets is that over-the-top SVOD service providers do not typically offer both permanently ad-supported and premium versions of their service. However, various other Internet television services blur this distinction.[7] The ad-supported model was introduced in music subscription services to gather a large initial user base with hopes that some of them would later convert to paying customers. Instead, paid SVOD providers rely on free trial periods. Other key differentiators between music and video markets relate to the inherent nature of their content, exclusivity, and publication logics.

In general, individual video titles require far more time and attention from consumers, and typically have less replay value in comparison to individual music titles. Production of films and television shows is also far more expensive in comparison to music. Compared to music subscription services with tens of millions of titles, SVOD services are narrower and more exclusive in their scope. This is because the markets operate with different logics in terms of monetization and intellectual property rights. For example, movies are first shown on theaters, then released to the home video market - nowadays also in digital form in addition to physical formats - and maybe then released to streaming, depending on the deal. All of these steps come with noticeable delays, which range from a couple of months to years.

As its strategic response, the SVOD market leader Netflix has given up many major Hollywood titles and directed its efforts toward exclusive and original productions not legally available anywhere else (e.g., *House of Cards*). HBO has a long history with a similar strategy dating from its roots as a premium cable television network. Currently, the network is spearheaded by its crown jewel series *Game of Thrones*. This trend towards high quality exclusive programming creates a need to subscribe to multiple SVOD services in case the consumer wants access to larger catalogues, and even then, it is very possible that the particular titles sought by the consumers are simply not legally available for streaming for them. This exclusivity is may promote piracy, as has also been observed in the music context with exclusive albums (Ingham 2016).

Due to licensing deals, SVOD service providers have not been able to stream their content globally; instead, the catalogues differ between markets. Such restrictions are often referred to as "geo-blocking". However, as one of its activities within a broader *Digital Single Market* strategy, the European Commission has called an end to geo-blocking within the European Union, stating that the practice is unjustified (European Commission 2017).

As a partial remedy to content issues discussed above, SVOD users in smaller markets can seek to broaden their allotted catalogues by using virtual private networks (VPN) or location-cloaking domain name system (DNS) pro-

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7 In Finland, in addition to the public and free Areena service by Yleisradio (Finnish Broadcasting Company), the major commercial television stations offer their own programming for free in ad-supported MTV Katsomo (MTV) and Ruutu (Nelonen Media) streaming services. C More, a separate MTV-owned paid SVOD service, essentially functions as the company's premium content service. Nelonen Media's paid content service is branded Ruutu+.

viders from abroad. This way, a Finnish customer, with a comparably limited native catalogue, can have access to geo-blocked titles intended to be exclusively available for American customers. This "geo-unblocking" is typically not illegal, but the rights holders have been irritated by the practice, driving SVOD service providers to take countermeasures (TorrentFreak 2016, BBC 2015). These actions may again anger the customers, and possibly promote "retaliatory" piracy.

1.3 Research Objectives and Questions

The general objective of this dissertation is to improve the understanding about the digital piracy phenomenon in music and video contexts. Especially, we are interested in the changes brought by new business models and the developments in digitalization. Deviant consumers' perceptions about legal digital services and their effects on piracy perceptions and behaviors are of particular interest.

During the time this dissertation was started, relatively little research had studied music piracy in other than college student populations. There was practically no piracy research on younger digital natives; the level of technology and connectedness in the formative years of college students had not been even close to that of today. Studies among younger individuals shaped by the Internet from a very early age (referred to as Generation Z - Bassiouni & Hackley 2014) could address these issues (see Figure 4 - *Piracy and Generation Z consumers*).

We started our examination by charting the relevant theoretical frameworks used in prior literature. As digital piracy of music and videos is a form of offending mostly associated with younger audiences, we identified criminological theories as a fertile ground for study. Especially, Sykes and Matza's (1957) neutralization theory provides insights into dealing with crimes committed by 'normal' young individuals committed to general societal values. Thus, the first research question posed in this dissertation was the following:

RQ1: How do young consumers view piracy, and do they give accounts for it using techniques of neutralization?

This question was answered by conducting semi-structured interviews among young music consumers (i.e., aged 14-17) who also had personal experience in digital piracy, and through studying relevant prior literature. The study was reported in Article I.

After the interviews were conducted, SBMS continued with their breakthrough. A little later, many different SVOD services were introduced in the Finnish market. During the period, music piracy had started to decline - a trend that was already apparent from some of the interviews. As piracy was no long-

er an obvious solution to acquiring music and media at this point, new theoretical perspectives were called for (Figure 4 - *Developments in SBMS and SVOD*).

We recognized that cognitive dissonance, a classic theory in psychology by Festinger (1957), had not received much attention from piracy researchers, and its connections with other theories were not widely recognized in the literature, despite some calls for further studies. Thus, we sought to clarify the mutually complementary perspectives of cognitive dissonance and neutralization theories. The leading approach in digital piracy research has been the general reasoned action framework, more specifically Ajzen's (1985, 1991) theory of planned behavior. We were interested if the proposed perspective could contribute to this.

RQ2: Can cognitive dissonance and neutralization theories be integrated with the reasoned action framework to predict digital piracy, and how?

Article II, along with the Theoretical Foundations chapter of this dissertation, answered this question by introducing a series of effects that integrate neutralization and cognitive dissonance theories in the context of digital piracy. This is called the Dissonance-Neutralization model of digital piracy.

Article III addressed this question further, and proposed a number of alternative ways to model piracy in a broad framework integrating the three perspectives. It also included the adoption of paid legal services (paid SBMS and digital music stores, as the empirical focus of the article was on music piracy) as a potential explanation of different levels of piracy-related dissonance and piracy intentions among the subjects.

However, the results were negative on this part, and led us to the third research question. We speculated that if use alone would not explain dissonance, perhaps the related satisfaction would affect the need to reduce piracy-related dissonance, and contribute to a more negative attitude towards piracy.

RQ3: Do the perceived merits of competing legal services and legal service satisfaction shape digital piracy attitudes and behaviors, and through which mechanisms?

This question was answered in Article IV, which dealt with the perceived qualities of paid SVOD services available in the Finnish market.

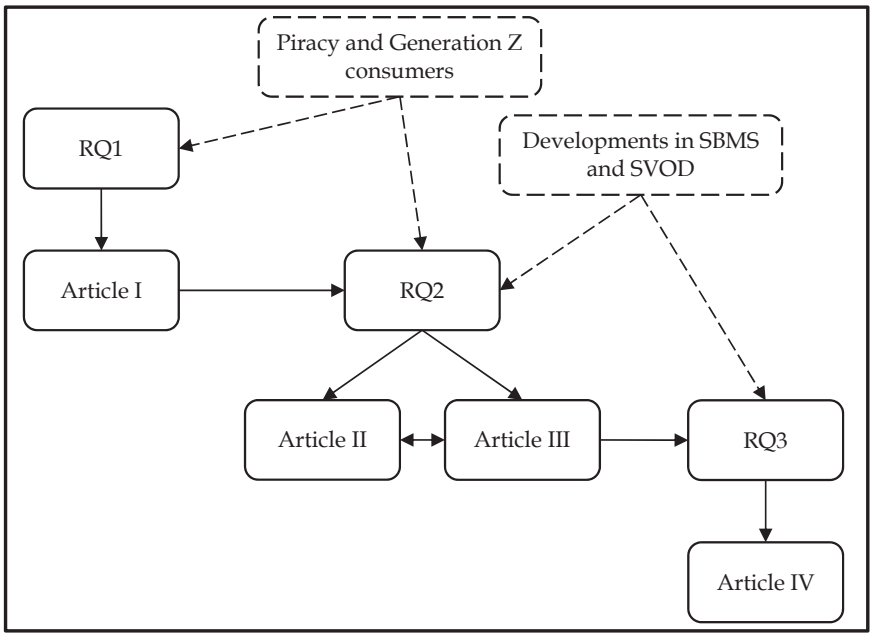

FIGURE 4 The flow of research for the articles in this dissertation - research findings and external developments inform new studies.

1.4 Structure of the Dissertation

The dissertation consists of an aggregating part and four original articles (numbered I-IV). In this first chapter of the aggregating part, we have introduced the phenomenon under study, i.e., digital piracy in music and video contexts, and presented our research objectives and questions for the dissertation.

In Chapter 2, we will present the theoretical perspectives applied in the studies. These include the theory of planned behavior, neutralization theory, and cognitive dissonance theory. In Chapter 3, we will briefly summarize the objectives, methods, and findings of each included article. Chapter 4 reflects on the contributions of the accomplished studies. In the same chapter, we will also discuss the managerial implications and limitations of the studies as a whole. Finally, Chapter 5 summarizes the dissertation. Appendices include snapshots of prior piracy literature relevant to the dissertation at hand.

2 THEORETICAL FOUNDATIONS

The corpus of behavioral digital piracy research is broad, and originates from variety of disciplines besides information systems, such as criminology, economics, marketing, and social psychology. As the aim of this dissertation is to develop a better explanation for consumers' digital piracy behavior in presence of reasonable legal service alternatives, we seek to integrate the concepts of cognitive dissonance and neutralization with the rationality-based theory of planned behavior (TPB) approach in the contexts of digital music and video piracy. To do this, we will first summarize relevant literature regarding each of the three theoretical perspectives (TPB, neutralization, and cognitive dissonance), and then present the development of our integrated model.

2.1 The Theory of Planned Behavior

The theory of planned behavior developed by Ajzen (1985, 1991) is one of the most influential theories in human decision-making, and also a popular reference theory in information systems research. It is an extension of theory of reasoned action (TRA) (Fishbein & Ajzen 1975, Ajzen & Fishbein 1980), an earlier theory built on the same principles. Both of these theories are based on the rationality-based assumption that any given behavior is primarily determined by behavioral intention.

In TRA, intentions have two antecedents: 1) attitude toward behavior derived from underlying behavioral beliefs, and 2) subjective norms derived from underlying normative beliefs. Any external variables like demographics, personality traits and other individual difference variables are thought to influence how the underlying beliefs are formed. That is to say, the reasoned action framework does not neglect other variables, but assumes that their effects on intention are mediated by the main antecedent constructs.

TPB extends TRA by including a third antecedent of intention, a construct called perceived behavioral control (PBC), which corresponds to Bandura's

(1986) concept of self-efficacy and is based on beliefs about control and power. In practical research applications, PBC is often thought to also directly influence behaviors, reflecting that perceived control at least partially corresponds to actual control. (Figure 5)

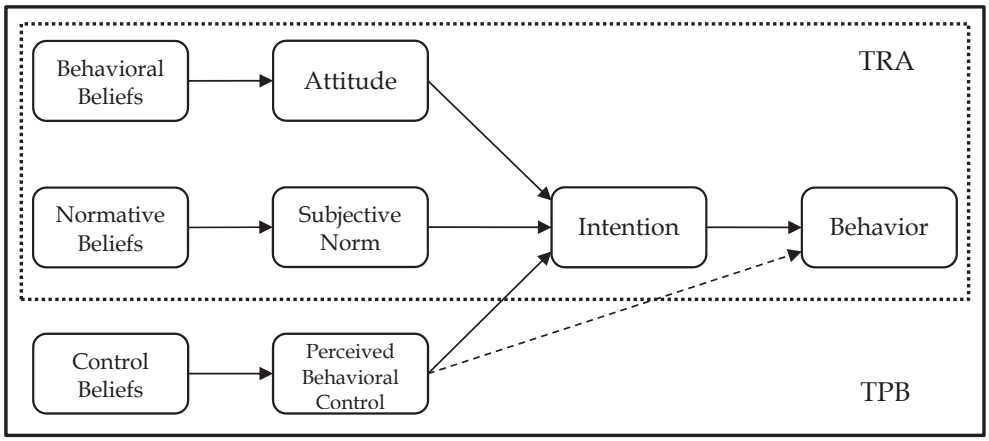

FIGURE 5 Theory of Reasoned Action (within the dotted box) and Theory of Planned Behavior (Ajzen 1991)

Context-specific theoretical extensions are common in studies employing TRA or TPB. An example of such extended TPB model regarding IS ethical decision-making is the Leonard et al. (2004) IT ethical behavioral model. While the basic TPB already includes these extension variables as the underlying beliefs, they can also be modeled directly; if they significantly contribute to explained variance over and above the basic model, they could also potentially qualify as an improvement to current theory and come with new practical implications.

Outside IS literature, TPB has been extended to predict dishonest actions such as cheating, shoplifting, and lying by including additional measures about moral obligation (Beck & Ajzen 1991), which refers to "the feeling of guilt or the personal obligation to perform or not to perform a behavior" (Cronan & Al-Rafee 2008). Ajzen (1991) himself has indicated that the construct of moral obligation could be added to the TPB as a predictor of intentions alongside other TPB constructs. Schwartz and Tessler (1972) also promoted moral obligation to predict ethical intention. Moral obligation has a clear overlap with the anticipated emotions (Perugini & Bagozzi 2001, Taylor, Ishida & Wallace 2009) and anticipated guilt constructs (Wang & McClung 2012), which is also apparent when comparing related measurement items found in the literature.[8]

[8] An anticipated guilt item (Wang & McClung 2012): "If I were to download digital content through a peer-to-peer application in the next 2 months, I would feel guilty". A moral obligation item (Cronan & Al-Rafee 2008): "I would not feel guilty if I pirated digital material".

2.1.1 Why Not Use the Technology Acceptance Model?

A point needs to be raised about the Technology Acceptance Model (TAM) (Davis 1989) and its derivatives including TAM2 (Venkatesh & Davis 2000), TAM3 (Venkatesh & Bala 2008), UTAUT (Venkatesh et al. 2003), and UTAUT2 (Venkatesh, Thong & Xu 2012) in relation to piracy research. While TAM was conceived as an information systems application of the reasoned action framework, it was specifically designed to predict system adoption in the organizational context (and extended to continuance in its derivatives such as UTAUT). Thus it includes such constructs as "perceived usefulness" and "perceived ease of use". In TAM, these substitute the attitude, subjective norm, and perceived behavioral control as antecedents of behavioral intention to use an information system (Figure 6).

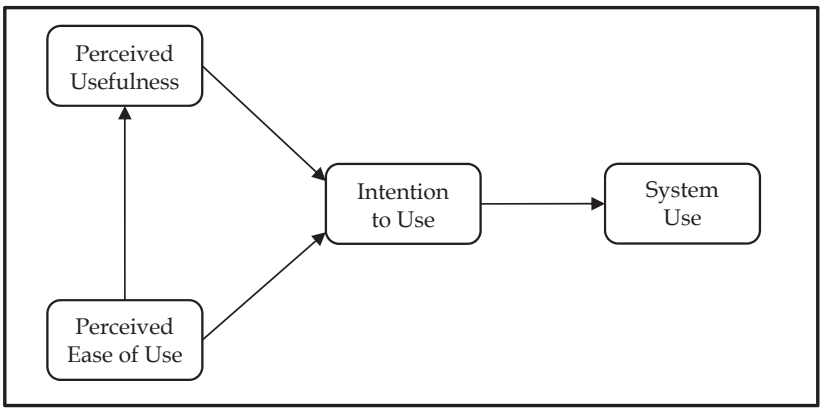

FIGURE 6 Technology Acceptance Model (Davis 1989)

The numerous ways to acquire music and media (and software, for that matter) illegally are quite distinct from this. Piracy, as a mode of criminal behavior, falls generally outside of the boundary conditions of TAM in that it is not limited to any specific forms of systems (such as P2P clients) whose adoption would be of interest. Piracy studies utilizing TAM do exists, however, but they often drop key constructs, include additional theories, or treat piracy behaviors as system adoption to circumvent the shortcomings of TAM in this context (Lowry, Zhang & Wu 2017).

We conclude that TAM, along with its derivatives, is not an ideal framework to build further theory on the mechanisms of digital piracy in general, but may be viable for studying the adoption and continuance of specific information systems that facilitate piracy. Instead, as a more general theory, TPB provides a better fit with the general piracy phenomenon, but still needs to be supplemented with other theories that extend its rationality-based boundaries. This is what most researchers have done, as can be seen in the following subsection.

2.1.2 Applications of TPB to Digital Piracy

Empirical piracy studies that employ TPB in one way or the other are numerous - a snapshot of them can be seen in Table 5 (Appendix A). Typically, the studies combine TPB with other theoretical perspectives, and propose additional empirical constructs that influence piracy attitudes, intentions or behaviors. Some of these have drawn from deterrence theory, others from consumer ethics tradition or cultural difference perspectives. Yet another stream of studies has focused more on the attitude dimension of TPB, often dealing with emotions or affect.

Deterrence

In one of the earlier music piracy studies, Kwong and Lee (2002) employed TPB with three additional constructs grounded on equity theory, deterrence, and computer deindividuation, and found that equity perceptions were strongly associated (standardized path coefficient 0.76) with music piracy attitudes, and that deterrence effects of legislation moderately affected intentions (−0.30) and attitudes (−0.21).

In another widely cited paper, Peace, Galletta, and Thong (2003) tested a model of workplace software piracy based on TPB with deterrence measures perceived certainty and severity of punishment) as attitudinal antecedents. In comparison, Morton and Koufteros (2008) tested deterrence in the same way for music piracy attitudes, but in contrast to Peace et al. findings (which were −0.24 and −0.26, respectively), found no support, except for perceived severity of punishment among females. While software and music have different qualities, it is also likely that the private environment related to music diminishes risk perceptions in comparison to the workplace environment, and thus, deterrence measures are rather ineffective. In both studies, however, the hypothesized effects of TPB constructs on intention were supported.

Ethics and morals

D'Astous, Colbert, and Montpetit (2005) tested a basic TPB model for music piracy intention using multiple regression, and observed the standardized path coefficients to range from 0.25 to 0.34 for the three antecedents, effect sizes that could be best described as medium. For extensions, they also considered past behavior, personal consequences, and ethical predispositions. Past behavior's effects on attitudes (0.33) and intentions (0.61) were medium and strong, while personal consequences had smaller effects (−0.17 and −0.18). In turn, ethical predispositions only affected attitudes (−0.22). Their experimental manipulations drawing from negative personal consequences, negative consequences for the artists, and unethical nature of piracy were not effective.

Cronan and Al-Rafee (2008) further extended TPB with moral obligation and past behavior, and found that in their SEM results, the effects of these two added constructs on intention were quite dominating compared to others (0.46 for past behavior, −0.29 for moral obligation). Out of the three original TPB an-

tecedents, only perceived behavioral control was statistically significant by conventional $p < 0.05$ criteria (the authors themselves used a more lenient $p < 0.1$ cut-off, and reported attitudes as significant). Moral obligation is also further supported in softlifting (Goles et al. 2008) and movie piracy (Phau, Teah & Lwin 2014) as an attitudinal antecedent.

Yoon (2012) compared the TPB and Hunt-Vitell models (Hunt & Vitell 1986) in piracy intention prediction: the TPB clearly outperformed the Hunt-Vitell model explaining 43% of variance, compared to 18%. In an earlier paper, Yoon (2011) also proposed an integration of the two models, where moral obligation and perceived benefits predict intentions, moral obligation and justice predict subjective norms, and perceived benefits and risks predict attitudes.

Culture

Working with an extended TPB model similar to that in Cronan and Al-Rafee (2008), Al-Rafee and Dashti (2012) found that the relative impacts of the predictor constructs may differ between cultures. For example, in Middle East, the impact of attitude was higher than in the United States, while perceived behavioral control and moral obligation were more important in the USA. Other cultural factors, such as the role of religion in the society may also contribute to curbing piracy: e.g., Al-Rafee and Rouibah (2010) found that anti-piracy messages received from religious leaders may decrease piracy in the Middle East. However, in secular Western societies, such approach would likely be very ineffective.

Udo, Bagchi, and Maity (2016) took a slightly different theoretical view to piracy. With a model based on UTAUT and norm activation model, they studied the mediation effect of collectivist/individualist cultures on the antecedents of personal norms. Here, personal norms are understood according to Schwartz (1977) as "feelings of moral obligation to perform or refrain from specific actions"; they are not the same as social (or subjective) norms derived from the social environment (or from the perceptions about it). Against expectations, the impact of social influence was stronger in the individualist USA than in the collectivist India. More expectedly, awareness of consequences had a stronger impact in India than in the USA. Ascription of responsibility, i.e., the feeling of responsibility for performing a certain behavior, was an equally significant predictor in both cultures.

Attitudes and emotions

As noted, many studies focus primarily on the attitude construct of TRA/TPB. In addition to the deterrence and moral obligation leveraging studies mentioned above, Chiou, Huang, and Lee (2005), Al-Rafee and Cronan (2006), Nandedkar and Midha (2012), and Akbulut (2014) include a number of factors that are primarily used to predict attitudes (e.g., habits, importance, and perceived prosecution risks). Many of them also represent various emotions, and thus contribute to the affective component of attitude. The explicit addition of affect to TRA/TPB is a somewhat controversial topic, and has been discouraged

by Ajzen and Sheikh (2013). Testing this, Taylor, Ishida and Donovan (2016) observed most overall support for models where an overall measure of attitude (measured with bipolar scales, e.g., *good-bad*, *valuable-worthless*) mediates the contributions of anticipated emotions (measured with unipolar scales, e.g., *happy, worried, guilty*). An example of a more problematic model is found in Phau et al. (2014). The authors included "affect" based on the works of Triandis (1979) and Limayem, Khalifa, and Chin (2004) alongside with attitude. However, they failed to recognize that some of their affect measurement items ("*It is wise to download movies for free from the internet*", "*It is valuable…*") clearly cross over to the realm of more cognitive overall attitude evaluations (of which they in fact included an item worded "*Downloading movies for free from the internet is a wise idea*"), and thus should not be included under the affect construct.

As mentioned, the definition of moral obligation includes the feeling of guilt. As such, we should also consider other piracy studies that deal with similar negative emotions under different names. These include e.g. "anticipated guilt" (Wang & McClung 2012), "anticipated regret" and "negative anticipated emotions" (Taylor, Ishida & Wallace 2009). Conversely, positive emotions are also studied in the piracy literature. In Wang & McClung (2012) they appear as "general anticipated emotions", and in Taylor et al. (2009) as "positive anticipated emotions".

In some cases, the measurement of attitude may also differ from the typical semantic differential adjective pair scale. Wang and McClung (2011) drew from attitude functional theory (utilitarian, value-expressive, and ego-defensive functions), and were later advocated by Sang et al. (2015), who took a cross-cultural approach to the subject. Phau and Ng (2010) leaned on the various statements based on Hoon Ang et al. (2001) and Kwong et al. (2003), some of which are inspired by neutralization theory. Further, the Phau and Ng (2010) model positions the construct "attitude towards pirated software" as a mediator between other determinants and intention. Given the influence of neutralizations, we discuss the implications of this in Section 2.2.

Summary

In summary, TPB has proven to be a useful model for digital piracy research, especially when moral obligation and related emotions are also accounted for. While there are prominent alternative theoretical explanations to digital piracy, such as the Triandis model (Triandis 1979, Limayem, Khalifa & Chin 2004), the Hunt-Vitell model (Hunt & Vitell 1986, Thong & Yap 1998), social cognitive theory (LaRose & Kim 2007, Jacobs et al. 2012), and self-control theory (Higgins 2004, Higgins 2006, Malin & Fowers 2009), the accumulated empirical evidence is arguably the strongest overall for the TPB. For reference, a recent piracy meta-analysis (Lowry, Zhang & Wu 2017) identified 70 publications that utilized TRA or TPB, compared to 19 publications that built on social cognitive theory or its progenitor, social learning theory. Therefore, in this dissertation, TPB will act as a reference point and a base for the proposed added constructs and their interactions.

2.2 Neutralization Theory

Neutralization theory, also referred to as "techniques of neutralization", is originally a criminological theory proposed by Sykes and Matza (1957) to address juvenile delinquency. It follows the lineage of Sutherland's differential association theory (Sutherland & Cressey 1947), which posits that criminal behavior, and the associated values, attitudes, and motives are learned through interaction with others. On the other hand, it was born as a critique of Cohen's (1955) subcultural theory, which held that juvenile delinquents reject the mainstream culture and create their own subcultural values. In contrast to this, neutralization theory is based on the assumption that deep down, juvenile delinquents share the same values as the law-abiding general public does, and experience guilt and shame for their crimes.

To lessen the guilt of violating the values and rules of the society, delinquents employ certain verbal and mental techniques to temporarily suspend their commitment. The techniques of neutralization allow individuals remain committed to the society while drifting in and out of deviance without damage to their self-concept, but mainstream norms still act as checks on their behavior (Matza & Sykes 1961, Matza 1964). In their seminal article, Sykes and Matza (1957) distinguished five of these (Table 1):

TABLE 1 The original five techniques of neutralization presented by Sykes and Matza (1957), illustrated with example arguments.

Neutralization technique	**Example argument**	**Description**
Denial of responsibility	*"They made me do it"*	Individuals who employ this technique refuse to accept responsibility for their actions, either by claiming an accident or that they were somehow forced to their illegal actions by circumstances.
Denial of injury	*"No harm done"*	Illegal actions are claimed to be harmless, or that the victim can well afford the losses suffered from aforementioned actions.
Denial of the victim	*"They deserved it"*	It is recognized that there may be a victim to the crime, but the victim is considered to somehow deserve his fate, possibly as punishment or retaliation.
Condemnation of condemners	*"You hypocrites would do the same"*	Behavior is justified on the basis that the victimized are not real victims because they are hypocrites or that the victims would engage in similar activities were they provided the opportunity.
Appeal to higher loyalties	*"I did it to help my friends in need."*	Illegal actions are motivated by recognition of the needs of the individual's immediate social group such as their family or a gang.

2.2.1 Critique and Further Development

Despite having its roots in a study of these rather specific forms of offending behaviors related to juvenile delinquency, the theory has since been found to be useful in a broad variety of other contexts, such as poaching (Eliason & Dodder 1999), shoplifting (Cromwell & Thurman 2003), coming to terms with holocaust (Hazani 1991), and fair trade purchases (Chatzidakis, Hibbert & Smith 2007). The considerable interest in the theory can be explained by its expandability: Subsequent research has identified many additional techniques tailored to work in various forms of criminality or other offending, such as metaphor of the ledger (Klockars 1974), defense of necessity (Minor 1981), and justification by comparison (Cromwell & Thurman 2003); Willison and Warkentin (2013) provide a brief overview of these. Maruna and Copes' (2005) review is a more comprehensive look on the theory that goes beyond individual techniques.

Critics of neutralization theory (e.g., Hindelang 1970) have questioned whether pre-offending neutralizations exist at all, and labelled them as mere rationalizations. The distinction between neutralizations and rationalizations concerns to pre versus post-hoc reasoning: 'rationalization' refers to arguments invoked only after the performing the offending behavior, while 'neutralization' is more commonly associated with arguments learned prior to the offending behavior. In practice, the sequence of behaviors and attempts to maintain a positive self-image is often complex, and it may be difficult to conclude which was originally first, "the chicken" or "the egg". Hirschi (1969) argued that both answers could be right, in that neutralizations start their life as after-behavior rationalizations but then become the moral release mechanism to facilitate future offending (Maruna & Copes 2005, Cromwell & Thurman 2003). When adopting this viewpoint, the theory is best understood as an explanation of criminal persistence and desistance rather than that of criminal etiology. That is to say, neutralization does not as itself cause offending, but only allows for it (Maruna & Copes 2005, Matza 1964).

In addition to Sykes and Matza's neutralization, others have brought similar but individual theoretical developments forth under different names, such as moral disengagement (Bandura et al. 1996) and self-serving cognitive distortions (Barriga & Gibbs 1996). Ribeaud and Eisner (2010) have highlighted these notable similarities. A bit more distinct, but still closely related body of work originates from sociology of talk. Scott and Lyman (1968) conceptualized *accounts* as "linguistic device[s] employed whenever an action is subjected valuative inquiry". This research tradition has distinguished different types of accounts. Scott and Lyman wrote about excuses and justifications, and others have since improved on the taxonomy with the additions of concessions and refusals (Schönbach 1980), and referentializations (Fritsche 2002). Techniques of neutralization have been acknowledged as a part of this corpus from the beginning, as Scott and Lyman (1968) discussed techniques of neutralization as different types of justifications. While the tradition of accounts has its roots in interpersonal talk, more recent approaches have expanded the domain of ac-

counts to the intrapersonal (Fritsche 2002). This has further emphasized the ties between accounts and neutralizations (see also Table 2 in Subsection 2.3.2).

2.2.2 Applications of Neutralization Theory to Digital Piracy

In their review covering the first fifty years of neutralization theory, Maruna and Copes (2005) note that the theory has found a receptive audience in organizational and white-collar crime studies. This also applies to the IS literature, where neutralization has been primarily used as a theoretical lens in organizational security research: e.g., Siponen and Vance (2010) and Barlow et al. (2013) have studied neutralizations related to employees' IS security policy violations. Summarizing earlier literature, Willison and Warkentin (2013) note that compared to hardened offenders such as career criminals, corporate employees have a far greater stake in the conventional society and are far more open to feelings of guilt and shame.

Along with security researchers, digital piracy researchers have also adopted neutralization theory (Table 6 in Appendix B). This is equally fitting, because the typical online pirate is traditionally viewed as a rather normal young individual with a greater potential for guilt and shame than a career criminal.

In qualitative piracy studies, techniques such as denial of injury and denial of victim seem to appear very prominently (Moore & McMullan 2009, Halttunen, Makkonen & Frank 2010). When additional techniques besides the original five are considered, claim of normalcy is also notable (Moore & McMullan 2009). Harris and Dumas (2009) reported that some techniques are more often used as pre-behavior neutralizations, some as post-behavior rationalizations. The former group included denial of victim and appeal to higher loyalties, the latter denial of injury, claim of normalcy, claim of relative acceptability or justification by comparison, and denial of responsibility. Qualitative studies in cross-cultural settings have also shown that there are differences in the use of neutralization between countries. For example, Russian consumers would deny their responsibility, whereas Americans would not (Cohn & Vaccaro 2006). Such cultural differences in the propensity to neutralize are also supported by quantitative findings (Yu 2013).

In quantitative approaches, researchers have often applied the theory by hypothesizing effects from neutralization to piracy intentions or to some measure of piracy participation. An example is the study by Siponen, Vance and Willison (2012), which found that the techniques of condemnation of the condemners and appeal to higher loyalties predicted software piracy intentions. While qualitative researchers have shown that offenders routinely use neutralization techniques, further quantitative support for the theory has not always been particularly strong in magnitude: e.g. Hinduja (2007), along with Morris and Higgins (2009), report only modest support. Further, Morris and Higgins (2009) found differences in that neutralization predicted willingness to pirate music, but not video. Brunton-Smith and McCarthy (2016) claim that low parental support is more predictive of online piracy than neutralization techniques.

However, some longitudinal evidence exists that the level of neutralization affects actually occurring music piracy (Higgins, Wolfe & Marcum 2008).

In addition to simpler exogenous neutralization to intention/behavior setups, some authors have studied neutralization as an endogenous variable (i.e., as an outcome or a mediator). Vida et al. (2012) explored neutralization (referring to it as "rationalization") as a partial mediator for effects of perceived risks and benefits on digital piracy intention. In a further work by mostly the same author team (Kos Koklic, Kukar-Kinney & Vida 2016) neutralization was again in a mediating role, with moral intensity (a societal level factor), susceptibility to interpersonal influence (interpersonal level), perceived personal risk (personal level), and past piracy behavior as its theoretical determinants.

While the neutralization-intention approach is rather intuitive and fits well with prior models that lean heavily on well-established frameworks such as TPB, there may be more unexplored indirect mechanisms and other theoretical possibilities related to neutralization. After all, Sykes and Matza's (1957) reasoning is based on the exhibition of guilt or shame by the offenders, and that justification of deviance protects their self-image by minimizing these emotions. It seems somewhat surprising that these effects are largely overlooked in favor of neutralization-intention effects. Looking past the piracy domain, Chatzidakis et al. (2007) have conceptualized neutralization in various roles within the TPB in the context of fair trade product purchases. They present that in addition to the neutralization-intention path, neutralization could also have a direct effect on behavior, and a moderating effect on the intention-behavior relationship: the higher the acceptance of neutralization, 1) the weaker the attitude-intention relationship, 2) the weaker the subjective norm-intention relationship, and 3) the weaker the intention-behavior relationship. A similar moderating function of neutralization is also proposed for some additional antecedents of intention, such as ethical (moral) obligation and self-identity.

Further, Maruna and Copes (2005) have suggested that the relationship between neutralization and offending is curvilinear: hardcore pirates would not need to neutralize their behavior, because they are more committed to their subcultural values than to those of the general population. This view is supported by Ingram and Hinduja's (2008) results: in their study, strong agreement with neutralization techniques was primarily associated with medium-to-moderate piracy participation. This would explain why the direct neutralization-intention effects found in empirical literature are rather weak in the presence of other variables, as these studies have not typically employed models with curvilinear effects. However, not all studies support this view: e.g., in Thongmak's (2017) study, neutralization was a driver for piracy at all levels of piracy participation. In contrast, morals/ethics were found to decrease piracy at the lower level of piracy, but not at the higher.

Another issue is that a part of the current quantitative piracy neutralization research lacks theoretical and conceptual clarity. A number of studies (Phau et al. 2014, Phau, Teah & Lwin 2014, Phau & Ng 2010, Kwong et al. 2003, Hoon Ang et al. 2001) discuss neutralization in their theoretical framework, but

do not transfer the discussion to clearly operationalized constructs or effects, obfuscating the theory's contribution to research. Furthermore, items that could have been just as well used for measurement of neutralization techniques have been presented under the banners of "attitude towards piracy" or "attitude towards downloading", belonging to different dimensions such as "social consequences" and "social acceptance".[9] This perspective on attitude can be traced to Hoon Ang et al. (2001) study on pirated music CD purchases. While these sentiments represent various kinds of attitudes in a broader sense, such conceptualization does not align well with the specific terminology used in prior TPB and neutralization research. Ajzen (2002) defines attitude toward a behavior as "a person's *overall evaluation* of performing the behavior in question", and suggests that the construct would be measured by using a semantic differential scale with bipolar adjective pairs in the style of *valuable-worthless* (which tap into the instrumental nature of evaluations) and *pleasant-unpleasant* (which show more experiential qualities). A more generic pair like *good-bad* will capture both equally. These overall evaluations have quite different roles compared to specially devised sentiments that aim to validate norm-breaching behaviors. Arguably, an overall attitude measure (as in 'pure' TPB) should not contain such complex dimensionality that is found in these neutralization-like attitude scales. Instead, the dimensions should be treated as distinct, but perhaps theoretically related constructs.

To address the above limitations and shortcomings in current neutralization research on digital piracy, we seek new insights from the perspective of cognitive dissonance. We believe that this theoretical framework can provide the positioning needed to advance the contributions of neutralization in our context.

2.3 Cognitive Dissonance Theory

Festinger's (1957) cognitive dissonance theory (CDT) is based on an everyday observation: Humans do not like inconsistencies and have a universal tendency to reduce them when they arise. For example, the illegal downloading of copyrighted material often conflicts with the laws and values of the society - such behavior is not approved. In this situation, the cognition of one's online piracy behavior and the cognition about the inappropriateness of that behavior are in dissonance with each other.

The specific definition of a dissonant relation between two cognitions is as follows:

> Two elements are in dissonant relation if, considering these two alone, the obverse of the one element would follow from the other. (Festinger 1962, p. 13)

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[9] An example *social acceptance* item (Phau, Teah & Lwin 2014): "Because many people download films and TV shows, I think it is fine for me to do so too" - a textbook example of the neutralization technique *claim of normalcy*.

When this conflict is recognized and the relevant conditions are met, dissonance arousal takes place, and causes the individual to experience psychological discomfort. The need to reduce dissonance immediately follows.

One thing differentiated CDT from other lesser developed consistency theories. According to Festinger (1962, p. 16), dissonance had a magnitude: the more conflicting or discrepant the cognitions, the greater the magnitude of dissonance and the greater the need for dissonance reduction (Cooper 2007, p. 7). The magnitude of dissonance is dependent on the ratio of sums of discrepant and consonant cognitions, each weighted by their importance:

$$Magnitude\ of\ Dissonance = \frac{\Sigma\ (Discrepant\ cognitions * Importance)}{\Sigma\ (Consonant\ cognitions * Importance)}$$

Festinger used the concept of "cognition" to describe any conceivable piece of knowledge; thus, the theory can just as easily cover inconsistencies of attitudes, as well as those of behaviors, beliefs and perceptions. While attitudinal cognitions may be often easier to modify than behavioral cognitions, CDT should not be seen solely as an attitude change theory, because there are other solutions to dissonance reduction, which may come to play in different situations (Figure 7). Based on the Magnitude of Dissonance formula, there are three modes of dissonance reduction (Festinger 1962, Cooper 2007, p. 7-10):

1) Changing or removing one or more of the relevant but dissonant cognitions, such as an attitude or a behavior,
2) Adding new relevant consonant cognitions to increase the overall consonance between the cognitions, and
3) Decreasing (increasing) the importance of relevant dissonant (consonant) cognitions.

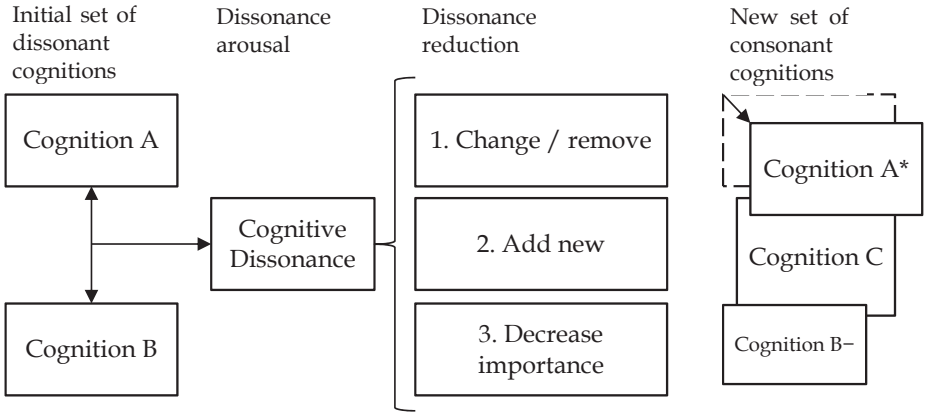


FIGURE 7 Dissonance arousal and the modes of dissonance reduction in Cognitive Dissonance Theory, adapted from Festinger (1962), Cooper (2007).

Cooper (2007) recognizes that there are certain conditions for dissonance arousal to occur: that the person had made a free choice in performing the behavior, that the behavior has potential unwanted consequences, and that the consequences are foreseeable. These will likely apply to most digital pirates. These conditions are, however, subject to debate between different schools of thought among cognitive dissonance scholars.

Charron (2015) presents a brief look into the history of paradigms resulting from cognitive dissonance. These include free choice (Brehm 1956), induced compliance (Festinger & Carlsmith 1959), effort justification (Aronson & Mills 1959), misattribution (Cooper, Zanna & Taves 1978), and vicarious cognitive dissonance paradigms (Cooper & Hogg 2007). Decades of research have also led revisions to models of cognitive dissonance, such as the New Look model (Cooper & Fazio 1984), self-affirmation theory (Steele 1988), action-based model (Harmon-Jones 1999), and self-standards model (Stone & Cooper 2001). Cooper (2007) provides a more in-depth history these and of other aspects related to CDT. Despite the fact that these models differ on the causes of dissonance arousal and on motivations of dissonance reduction, Charron (2015) claims that the debate between these perspectives has overshadowed a much greater level of consensus behind the original theory.

Cognitive dissonance is a very broad and multifaceted concept, so some clarification in the context of this dissertation is in order. In the following, we will describe the foundations for the interpretation of dissonance in this dissertation by two key tenets.

2.3.1 Tenet 1: The Integral Role of Emotions

Many 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, distinct cognitive and emotional aspects of dissonance exist. The cognitive component is the person's recognition that beliefs about piracy are inconsistent with piracy behavior. This has also been labeled as decision dissonance (Hausknecht et al. 1998). The emotional component represents "dissonance as a psychologically uncomfortable state" (Cooper & Fazio 1984).

We follow the "discomfort" line of reasoning by incorporating the concept of anticipated emotions, previously found in Perugini and Bagozzi's (2001) Model of Goal-Directed Behavior, which Taylor, Ishida, and Wallace (2009) have applied to music piracy. In addition, Wang and McClung (2012) have proposed and tested anticipated emotions as an addition to the TPB in their piracy study. The authors specially stress the role of anticipated guilt, which, according to their results, predicted intentions only for frequent downloaders but not for sporadic downloaders or non-downloaders. Building on this, De Corte and Van Kenhove (2017) include guilt as a segmentation variable between different pirate segments, alongside attitude and ethical evaluation. Guilt also has a link with equity theory as a reflection of reciprocal fairness, which is one of the dimensions of equity in general (Douglas, Cronan & Behel 2007). In turn, equity

has been found to be strongly associated with music piracy attitudes (Kwong & Lee 2002).

Other authors have explored the similarities between guilt and dissonance. Stice (1992) points out that both dissonance and guilt are states of negative emotional arousal that can be reduced through similar means, such as distorting memories, performing self-affirming acts, and consuming alcohol. Burnett and Lunsford (1994) discuss cognitive dissonance as a theoretical explanation for guilt. As a further connection, the scales used to measure anticipated guilt and the emotional component of cognitive dissonance seem to contain very similar items, while the dissonance scales also contain additional cognitive items not related to guilt. Finally, the moral obligation construct found in various extended TPB formulations (Beck & Ajzen 1991, Cronan & Al-Rafee 2008) has been defined as feeling of guilt and operationalized accordingly, bringing it close to our view of cognitive dissonance. Based on the above observations and findings, we consider guilt as a reflection of the emotional aspect of dissonance.

Measurement of dissonance has been a complex subject for researchers. In experimental situations, dissonance has been manipulated through different means such as having participants write essays or give public speeches contrary their opinions, and measuring the opinion difference between prior and after, but these have been criticized as being artificial and trivial. Most pen and paper scales have been largely ad hoc based. Fortunately, Sweeney, Hausknecht, and Soutar (2000) have developed a scale for post-purchase dissonance context, which served as a starting point for the dissonance measurement efforts in this dissertation.

2.3.2 Tenet 2: Dissonance Reduction through Neutralization

According to CDT, the cognition about inconsistent beliefs or actions instigates the dissonance process, and psychological discomfort follows (Hausknecht et al. 1998). Various dissonance reduction mechanisms are then applied. These represent the third, behavioral dimension of dissonance (Hausknecht et al. 1998). It is closely associated with neutralization, albeit this connection is not always directly spelled out in. Such discussions have been lacking the applied information systems literature, but have been broadly acknowledged in social sciences and criminology.

In their review of neutralization theory, Maruna and Copes (2005, p. 35) propose that integration with CDT would be "an important starting point" in refining neutralization theory. Like neutralization theory, CDT predicts that the individual will seek to neutralize the cognition through variety of excuses and justifications, and as in CDT, the primary motivation behind neutralization is establishing internal consistency (Maruna & Copes 2005, p. 36-38). Hazani (1991) takes a similar position by presenting neutralization techniques as "universal modes of response to inconsistency which involves, or tends to involve, feelings of individual and collective guilt". Dootson et al. (2016) also explicitly pair the two concepts this way with the following passage:

> Neutralisation techniques are disengagement tools used to reduce anticipatory or actual cognitive dissonance experienced from performing an act that contradicts with one's underlying values and beliefs. (Dootson et al. 2016, p. 751)

In their paper on cognitive dissonance and media piracy, Redondo and Charron (2013) also cite the authors of neutralization theory, Sykes and Matza (1957), and acknowledge the connection between the theories 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 of "appeal to higher loyalties") or decreasing the importance of dissonant elements (such as "claim of normalcy") (Table 2). In the case of our model, we thus tie neutralization techniques in to the domain of cognitive dissonance as specific forms of dissonance reduction.

According to Elliot and Devine (1994), psychological discomfort is the preferred component to consider when exploring the dissonance reduction process. Even if both cognitive and emotional components are motivators for dissonance reduction, it is likely that the effect of dissonance reduction is more immediate in the case of discomfort. Thus, we expect that neutralization techniques would be more effective in reducing negative emotions related to piracy, in comparison to altering directly their source, the dissonant beliefs themselves.

TABLE 2 Relations between neutralization (Sykes & Matza 1957), dissonance reduction (Festinger 1957) and different types of accounts (Scott & Lyman 1968, Fritsche 2002).

Argument	**Neutralization technique**	**Mode of dissonance reduction**	**Type of account**
"They made me do it"	Denial of responsibility	Changing or removing dissonant cognitions	Excuse: rejecting own agency
"No harm done"	Denial of injury	Decreasing the importance of dissonant cognitions	Justification: not admitting salient norm violation
"They deserved it"	Denial of the victim	Adding new consonant cognitions	Justification: not admitting salient norm violation
"You hypocrites would do the same"	Condemnation of the condemners	Adding new consonant cognitions	Refusal: rejecting the reproach's legitimacy
"I did it to help my friends in need"	Appeal to higher loyalties	Adding new consonant cognitions	Referentialization: referring to competing norms

A parallel for the dissonance process can be seen in the accounts domain as an *account episode* (Schönbach 2010), which consists of a failure event (norm violation) committed by the actor, followed by an opponent's reproach, an ac-

count put forward by the actor to mitigate the reproach, and finally, the evaluation of the account's validity by the opponent. It is of note that the opponent may be the actor themselves; an account episode may be entirely internal.

When put together, the failure event and the reproach give rise to the dissonant cognitions. Then, an account is given as a means to reduce dissonance, possibly utilizing neutralization techniques. The evaluative part determines the need for further action: the dissonance may be resolved, or the cycle may continue with other means of dissonance reduction and their subsequent evaluations. (Figure 8)

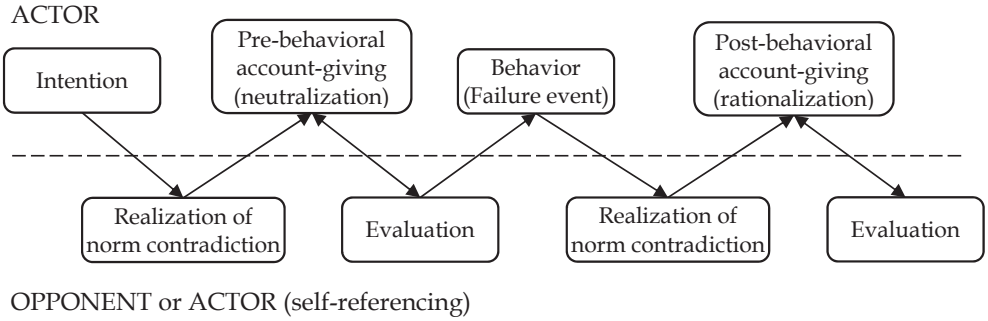


FIGURE 8 The flow of an account episode, extended for intrapersonal and pre-behavioral account giving (Fritsche 2002, Schönbach 2010), and described using neutralization terminology.

In addition to CDT providing broader context for neutralization, combining the two perspectives can also result in neutralization contributing back to CDT (Figure 9). According to Odou and Bonnin (2014), neutralization theory has potential to extend the knowledge on dissonance reduction in at least three ways:

First, while CDT proposes that eliminating the distance between beliefs and behaviors (by attitudinal or behavioral adjustments) is the way to reduce dissonance, neutralization theory recognizes that balance can also be achieved by providing additional discourse that enables the behavior to be dissociated from the norm. Odou and Bonnin (2014) describe neutralization as an addition of a discursive space, or an area of tolerance around the norms. They found the pirates' neutralization discourse to be opportunistic and often self-contradictory.

Second, dissonance reduction in CDT is limited to post-hoc reasoning, i.e., strategies are activated after behavior as rationalizations; neutralization theory states that the techniques can be mobilized before, during, or after deviant behavior. Even if they may be learned as post-hoc rationalizations for offending, they will facilitate offending in the future.

Finally, CDT has been rather silent about the sociocultural nature of dissonance reduction processes. In contrast, neutralization theory deals with deviance from the norms of the reference group (typically, the mainstream society) without deeper adherence to the values of an alternative group (underground

subculture), and, as mentioned, has best fit with "normal" individuals who do not approve of criminality in general.

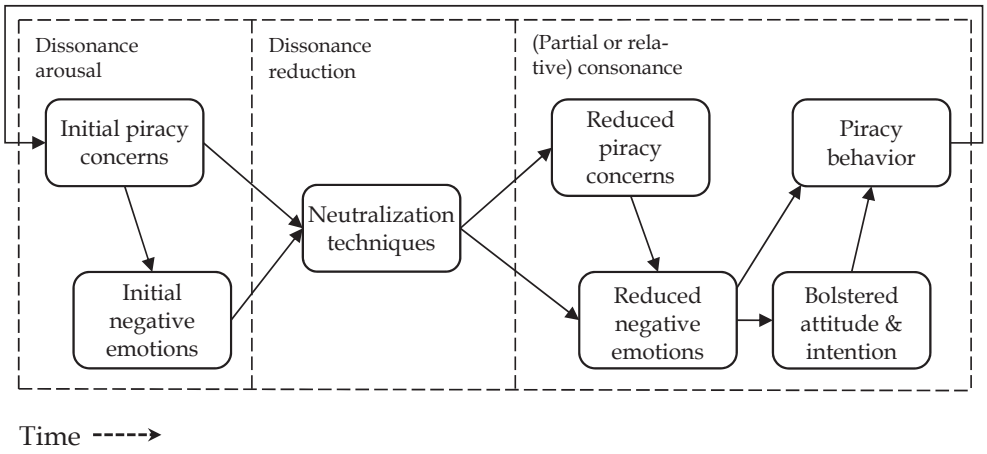


FIGURE 9 Dissonance arousal and reduction processes in the context of digital piracy, mitigated by neutralization techniques

2.3.3 Applications of CDT to Digital Piracy

In the prior information systems literature, direct references to CDT are rather scarce. Instead, CDT has perhaps had its greatest impact through expectation-confirmation research and Bhattacherjee's (2001) expectation-confirmation model of IS continuance. Beginning from the early years of the millennium, IS continuance research has filled an important research gap formed after initial IS acceptance studies, which had been largely based on TAM. In addition to TAM influences, Bhattacherjee drew from Oliver's (1980) expectation-confirmation theory to create his model, and derived the hypothesis of confirmation's elevating effect on perceived usefulness through CDT. More recent expectation-confirmation models have also been built based on CDT insights (Brown, Venkatesh & Goyal 2012, Brown, Venkatesh & Goyal 2014).

Even outside information systems, CDT has not been widely used in the case of digital piracy. Coming from marketing background, Redondo and Charron (2013) provide an exception in using CDT for their hypotheses on payment differences by different groups of customers. However, their study does not address the predictive power of experienced dissonance on piracy behavior, nor does it attempt to measure dissonance levels from individual responses. Thus, the approach taken in this dissertation represents first steps in various ways.

3 OVERVIEW OF INCLUDED STUDIES

In this chapter, we will provide brief summaries of included Articles I-IV. We will also report some of the initial results of further ongoing studies.

3.1 Article I - Music Piracy Neutralization and the Youth of the 2010's

Background and motivation

This paper originated from an interview study conducted during spring 2012. Neutralization theory had been recently made known to the information systems community (Siponen & Vance 2010) after it had been introduced to digital piracy research in other disciplines few years prior (Hinduja 2007). While music streaming options had already been present for a while, adoption of the paid premium versions was not yet very common, and music piracy participation numbers were high.

During the time, relatively little research had studied music piracy in other than college setting. The practical constraints on research had limited most samples to individuals who were not true digital natives, as the level of technology and connectedness in their formative years was not even close to the present day. Studying slightly younger individuals would partially address these issues, and shed light on one of the key problems in a quickly evolving field. The use of neutralization techniques was of particular interest for this new segment of music consumers.

Research Task

The study sought to explore the ethical aspects of music piracy among the young pirates of the early 2010's. What did they think about illegal downloading, and what new could be learned about the neutralizations they employ for piracy?

Methods

The study was qualitative in nature. Semi-structured personal interviews were held with eight young music and media pirates aged 14 to 17, recruited from a school in Central Finland. The interviews were recorded, transcribed and coded for instances of neutralization use by the responsible researcher. The length of the interviews varied between 31 and 53 minutes. Anonymity of the participants was carefully preserved, as their real names were never mentioned either during interviews or transcription.

Findings

Neutralization techniques could be identified each of the interviewee's responses to the questions proposed by the interviewer. The most-used techniques were claim of normalcy, denial of victim, and justification by comparison. In contrast, the key technique proposed by Sykes and Matza (1957), denial of responsibility, appeared in only one interview. All participants recognized at least some unethical issues related to piracy.

The individuals interviewed for this study, and their peers, have lived practically their whole lives in a world of networks (Internet), and were immersed with mobile devices from a very young age. The criminal possibilities of these technologies have also been obvious to them. There is an argument to be made that this cohort could be called Generation Z, in contrast with earlier studies on Generation Y. Their attitudes toward digital consumption may be different, and they may neutralize or rationalize their behaviors in different ways than the pirates of prior generations.

Contributions and the role of the author

I was responsible for all phases of the study. Lauri Frank provided overall help during the process, and comments and revisions to the original manuscript.

3.2 Article II - Dissonance and Neutralization of Subscription Streaming Era Digital Music Piracy: An Initial Exploration

Background and motivation

During the first half of the 2010's, the evolution of legal music services, especially subscription streaming, had challenged piracy as an obvious solution to acquire and consume digital music. Based on various surveys and industry statistics, the acceptance and practice of piracy were reportedly on the decrease. In this setting, new theoretical perspectives to the piracy phenomenon were called for.

Cognitive dissonance, a potentially powerful theory to explain piracy behavior, had not received much attention from piracy researchers, and its connections with other theories were not widely recognized in the literature. Thus,

we sought to clarify the mutually complementary perspectives of cognitive dissonance and neutralization theories.

Research Task

The objective was to introduce and test a new theoretical model ("Dissonance-Neutralization model of digital music piracy"), and present a series of effects that integrate neutralization and cognitive dissonance theories in the context of digital piracy. Additionally, the paper sought to answer the following questions: 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 in its effects on music piracy intentions?

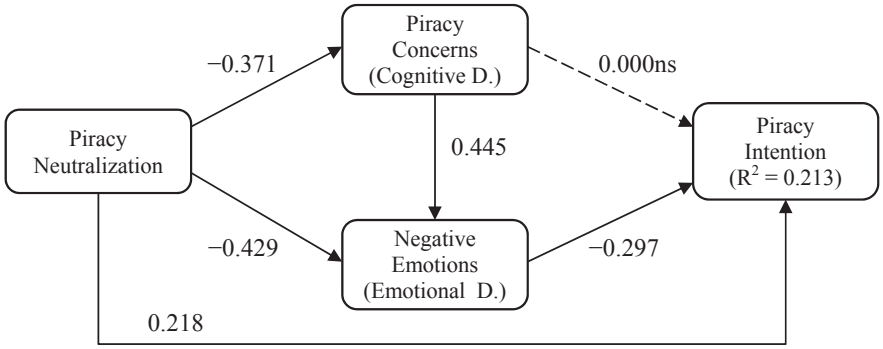
Methods

After discussions with fellow researchers and pilot testing, a self-administered online survey was conducted during spring 2015. We sought potential pirates as respondents by advertising the survey in various discussion forums and social media. These included also our university's communication channels, such as its website, and mailing lists for students, staff, and faculty.

Based on prior literature, cognitive dissonance was operationalized as two distinct constructs: piracy concerns (cognitive component) and negative emotions related to piracy (emotional component). Causal relations were proposed between the two by establishing the cognitive component as an antecedent of the emotional, as in prior cognitive dissonance literature. Finally, a structural equation model was estimated with the Mplus statistical software based on the collected 322 responses. Subgroup differences based on gender, age, and the use of paid streaming were analyzed after various measurement invariance tests.

Findings

The model explained 21.3% of variance in digital music piracy intention, 52.4% in negative emotions, and 13.8% in piracy concerns. The intention figure is somewhat lower than those reported in studies based on frameworks such as TPB, but nevertheless, the proposed Dissonance-Neutralization model was found to have nomological validity. Five of the six hypothesized paths were estimated to be statistically significant, suggesting that it may have potential to improve the understanding of the piracy phenomenon. Specifically, the insignificant direct effect of piracy concerns on piracy intention suggested that negative emotions are the main mechanism through which dissonance affects intentions, and that emotions are necessary components of digital piracy models. The contributions of this theoretical perspective were later assessed in a broader context in Article III.



χ^2 (71) = 142.748, p = 0.000, CFI = 0.973, SRMR = 0.046, RMSEA = 0.056.

FIGURE 10 Standardized results for the model developed in Article II.

We found that negative emotions related to digital music piracy increased with age. Possible causes for this include the general age-associated moral development and the openings of other possible consumption avenues due to increased income. Interestingly, neutralization was specifically a signature of those born during the 1980's. They represent a large share of the pirates of the early 00's, a period marked with aggressive anti-piracy policies and piracy lawsuits. In form of backlash, these could have contributed to their greater continuing neutralization, despite the emergence of new digital music services. Regarding gender differences, men showed less concerns and negative emotions, along with more neutralization. This corresponds well to the consensus view that pirates are more often men than women (e.g., Chiang & Assane 2008, Higgins 2006). Music streaming, on the other hand, was associated with decreasing piracy: compared to those who did not use streaming services, a greater share of streaming users reported that they had decreased their pirating activities. Intention to pirate was also lower among streaming users.

The discovered relationships between neutralization and dissonance can serve as guidelines for further curbing music piracy. Interactions with music consumers should be designed to arouse dissonance related to piracy. This can be achieved through many strategies, which can be tailored based on various subgroup differences. Based on those found in this study, attempting to induce negative emotions towards piracy is likely to have more success with women, as they do not neutralize as strongly as men. Arguing against neutralizations ("counter-neutralizations") might be needed in many cases.

Contributions and the role of the author.

The article was a solo work; thus I was naturally responsible for all phases of research. However, I received valuable help and advice from my supervisors Lauri Frank and Pasi Tyrväinen and from other researchers in the planning and data collection phases, which were common with Article III. Pasi Tyrväinen provided additional help and recommendations with the final revisions.

3.3 Article III - Digital Music Piracy in the Subscription Era: An Extended Model from Cognitive Dissonance and Neutralization Perspectives

Background and motivation

This paper originated from the same background as Article II. While cognitive dissonance and neutralization were found to be viable for predicting digital music piracy intention in Article II, it remained unclear how they would fit to the Theory of Planned Behavior framework, which is the leading approach in empirical piracy studies in IS and business fields. A comprehensive model integrating dissonance, neutralization, TPB, and legal services was thus presented and tested. Given De Guinea and Markus' (2009) proposition that emotions may drive continuing IS behaviors without directly contributing to conscious behavioral intentions, the model proposed a direct path between dissonance and piracy behavior.

Research Task

The objective was to integrate and extend the model described in Article II to consider the perspective of the Theory of Planned Behavior and legal digital music services, and study if Dissonance-Neutralization can contribute to it by improving the prediction of music piracy behavior. In a research question form: In the TPB approach to music piracy, do the additions of cognitive dissonance and neutralization techniques significantly improve the explanatory power of the model? Do the use of subscription-based music services and digital music stores affect cognitive dissonance and piracy intentions?

Methods

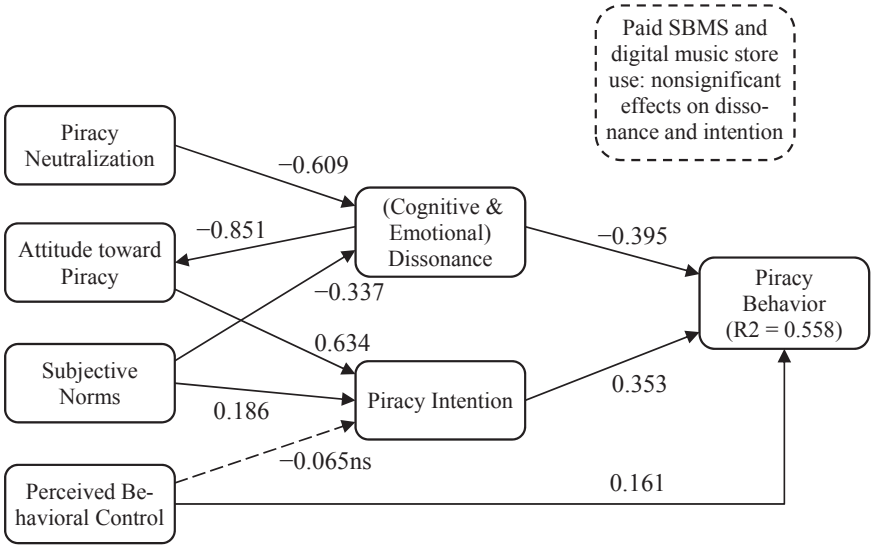
The article used the same dataset as Article II. Similar statistical analyses were performed, but this time they also included the TPB and piracy behavioral measures included in the survey, which were not studied in Article II. Other notable difference was that in this study, dissonance was treated as a multidimensional construct instead of two separate constructs. This proposed model formulation was compared to two-construct decomposed formulation. Timewise, the work and the analyses on this article were started before Article II, but the work on this article continued through and after the other article was finished.

Findings

The proposed integrated model proved to account for more variance in piracy behavior (55.8%) than either TPB (49.0%) or Dissonance-Neutralization models (43.3%). Dissonance was found to perform better as a direct antecedent of piracy behavior, instead of being mediated by the intention construct as implied in Article II. This is consistent with De Guinea and Markus' (2009) proposition about emotions as drivers of IS behaviors. The proposed model was also found

to be superior in prediction to an alternative model (50.3%) that decomposed dissonance as piracy concerns and negative emotions as in Article II.

However, the psychometric properties of the second-order dissonance construct were found to be less than ideal, as they violated Fornell and Larcker's (1981) criteria for convergent and discriminant validity. Based on sample results, the emotional component dominated the cognitive component in the second-order construct. The alternative decomposed formulation, also used in Article II, has theoretical advantages in that it allows us to model more causal paths derived from dissonance theory. In CDT, the cognitive component of dissonance has been identified as the cause of the emotional component. In turn, as mechanisms of dissonance reduction, neutralization techniques should be effective because they alleviate negative emotions such as guilt. Our results mildly corroborated this, as the effect of neutralization on the emotional component was slightly stronger than on the cognitive component.



χ^2 (308) = 552.429, p = 0.000, CFI = 0.955, SRMR = 0.065, RMSEA = 0.052.

FIGURE 11 Standardized results for the model developed in Article III.[10]

Against our hypotheses, the prior use of legal digital music services (paid SBMS and digital music stores) had no effect on illegal downloading behavior. This finding led us to consider insights from IS continuance behaviors and expectation-confirmation theory. It is likely that prior use itself does not affect piracy intentions or cause piracy dissonance, because it does not directly reflect satisfaction or dissatisfaction. This line of thought led to Article IV.

10 The figure excludes exogenous variable correlations.

Contributions and the role of the author

I was responsible for all phases of research. All authors contributed to the initial planning with varying degrees. Markus Makkonen helped with the statistical analyses and contributed to the results section. Markus Salo and Lauri Frank contributed to the introduction, theoretical framework, and discussion sections with expansions and revisions.

3.4 Article IV - Piracy versus Netflix: Subscription Video on Demand Dissatisfaction as an Antecedent of Piracy

Background and motivation

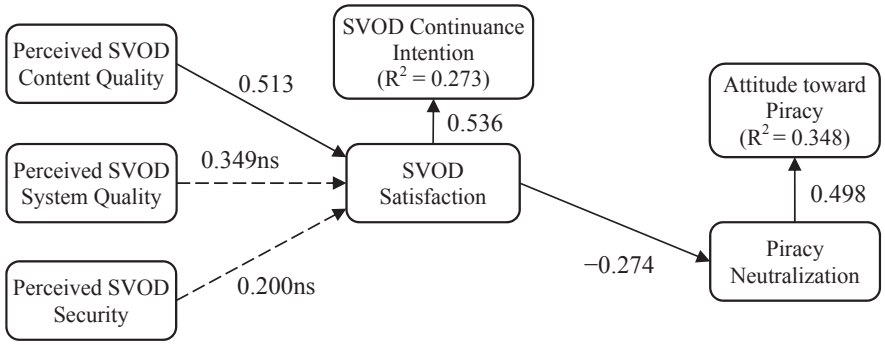
After the initial rise of music streaming in the latter part of the first decade of the 2000's, subscription video-on-demand services rapidly expanded to new countries, including Finland, starting from 2012. This introduced new options to acquire digital video content, and there were hopes that these services would diminish video piracy in a similar way than music streaming had diminished music piracy. However, music and video markets have their differences, so studies on the music context may not be directly applicable to the video context.

Research Task

The objective of the study was to extend the dissonance-neutralization piracy framework developed in earlier articles by including legal service dissatisfaction as a potential antecedent of piracy. Do the merits of SVOD services and SVOD satisfaction shape video piracy attitudes and behaviors, and through which mechanisms? Drawing from cognitive dissonance theory, we proposed that higher SVOD satisfaction would lead to 1) decreased neutralization, and 2) to more negative attitudes toward piracy. Conversely, dissatisfied customers would be more tempted to turn to piracy. We looked into the SVOD services available in the Finnish market, and identified three potential factors of SVOD satisfaction: content quality, system quality and security.

Methods

Similar to Articles II and III, data were collected using a self-administered online survey, this time conducted during spring 2017. The target audience was SVOD service users in Finland. A link to the survey and an introductory promotional message was first posted to select discussion forums of varying audiences, and to a mailing list of one student organization of our university. In the primary study phase, the survey was promoted through our university's mailing lists for students, staff, and faculty, as well as the university website. Again, we used structural equation modeling techniques to analyze our data from 124 respondents who had used SVOD services. Many of them had also personal experience about piracy - thus we controlled for current active piracy participation in our model.



χ^2 (236) = 299.12, p = 0.003, CFI = 0.962, SRMR = 0.073, RMSEA = 0.046.

FIGURE 12 Standardized results for the model developed in Article IV.[11]

Findings

Our results supported content quality as the main driver of SVOD satisfaction; the other two (system quality and security) were not statistically significant predictors. An indirect link between SVOD satisfaction and piracy attitudes was found: neutralizations were positively associated with attitudes toward piracy, and controlling for piracy participation, SVOD satisfaction decreased the propensity to neutralize piracy. However, the magnitude of the indirect effect from SVOD satisfaction to attitude toward piracy was rather small.

Because the related parts of the questionnaire were framed in terms of the respondents' primary-use SVOD service, the measured SVOD perceptions did not correspond to all services the individual respondents used; the primary service is likely to be the best among them. However, because each single current service has a rather limited and exclusive catalogue, they cannot compete with illegal sources on that regard. Consequently, a single service may not be an equally viewed alternative to piracy. Thus, the cognitive dissonance derived propositions of neutralization and attitude change may be only weakly reflected in this setting.

Contributions and the role of the author

The article was a solo work; thus I was naturally responsible for all phases of research.

[11] The figure excludes the paths related to the control variable (current piracy participation), exogenous variable correlations, and error term correlations.

3.5 Further Studies

Further studies not reported in the above four articles were also ongoing during the dissertation process. In the following, we will report the initial results and findings from a music and video piracy comparison study, because they rather importantly complement the studies reported in Articles II and III.

Dissonance-Neutralization: Music piracy compared to video piracy

Based on further theorizing, and because of the long tradition of attitude change in cognitive dissonance research, perhaps it would have been more precise to model both piracy concerns and negative emotions to predict attitudes, instead of intentions as in Article II. Still, because attitudes and intentions are highly correlated, this does not alter the broader implications about the effects of cognitive dissonance on behaviors. Thus, the findings and implications of Article II still stand.

While not used in Article II, the music dataset contained attitudinal measurements, which were used in Article III. Similar data was later collected also in the context of video piracy (with minor contextual differences in item wording), and a similar model could be specified using both datasets. The estimates for these two models were remarkably close to each other in that nearly all specified paths and explained variances were of similar magnitude (Table 3, Table 4). The slight differences were related to the weaker remaining direct path between neutralization and attitude (nonsignificant in the case of video piracy), and the conversely stronger connection between emotional dissonance and attitude in the video context. This close correspondence in two samples and two contexts supports the external validity of the general dissonance-neutralization digital piracy model.

In the free written comments collected along with the video questionnaire, some respondents said that piracy is not required anymore because of SVOD services. This also appears to be an increasingly common sentiment also in various discussion forums. Still, others pointed out clear shortcomings, such as technical issues and poor technical support. Overall, the feeling was that the SVOD services were perceived to be "halfway there" compared to music subscription services. One can question if the heightened expectations are realistic, because the current technological realities place more restrictions on SVOD services than they do to SBMS; audiovisual media is far more complex to handle than mere audio. However, the business side of SVOD services lies on a good foundation compared to the unprofitable SBMS, which still continue to operate on the technology start-up logic based on future expectations.

TABLE 3 Standardized estimates (standard errors in parentheses) for the digital piracy dissonance/neutralization model in both music and video context, further developed from Article II. *** p < 0.001, ** p < 0.01, * p < 0.05, EMOD = emotional dissonance, COGD = cognitive dissonance, ATT = attitude toward piracy, NEUT = neutralization, CFI = comparative fit index, SRMR = standardized root mean square residual, RMSEA = root mean square error of approximation.

Paths specified	**Music (2015, n = 299)**	**Video (2017, n = 158)**
COGD→ EMOD	0.423 (0.069)***	0.423 (0.112)***
NEUT → COGD	−0.379 (0.078)***	−0.340 (0.112)**
NEUT → EMOD	−0.421 (0.065)***	−0.392 (0.095)***
EMOD → ATT	−0.466 (0.060)***	−0.655 (0.080)***
NEUT → ATT	0.389 (0.067)***	0.169 (0.098)
Variances explained (R^2)		
EMOD	0.491	0.445
COGD	0.144	0.115
ATT	0.580	0.576
Model fit information		
χ^2 (degrees of freedom)	206.083 (85), p = 0.000	148.634 (85), p = 0.000
CFI	0.955	0.945
SRMR	0.047	0.056
RMSEA	0.069	0.069

TABLE 4 Construct correlations (off-diagonal) and the square roots of average variances extracted (diagonal) for the two models in Table 3 (music / video).

	EMOD	**DECD**	**NEUT**	**ATT**
EMOD	*0.879 / 0.902*			
DECD	0.582 / 0.556	*0.727 / 0.720*		
NEUT	−0.582 / −0.536	−0.379 / −0.340	*0.735 / 0.732*	
ATT	−0.693 / −0.754	−0.419 / −0.421	0.660 / 0.520	*0.916 / 0.879*

4 DISCUSSION

In this chapter, we will discuss the overarching theoretical contributions and managerial implications of the studies included in the dissertation. We will also consider the limitations of the studies, and identify some future research topics.

4.1 Theoretical Contributions

The articles included in this dissertation contain an extended framework of constructs and mechanisms related to digital music and video piracy in the subscription streaming business model era (Figure 13). They integrate the theory of planned behavior and its logic with cognitive dissonance and neutralization theories. This addition of "dissonance-neutralization" of piracy, i.e., neutralizations tailored to weaken the impact of piracy-induced negative emotions as a mode of dissonance reduction, along with its formation based on perceptions about legal alternatives (digital music and video services), represents a contribution to both digital piracy and neutralization literature.

To our knowledge, no prior study has attempted to operationalize and measure cognitive dissonance in the digital piracy context. To this end, we utilized inputs from prior literature on post-purchase dissonance (Hausknecht et al. 1998, Sweeney, Hausknecht & Soutar 2000), which is a comparable phenomenon - both deal with acquisition decisions. Here, it is recognized that despite its name, cognitive dissonance should be divided to distinct cognitive and emotional components, and that the latter component follows from the former. With the help of cognitive dissonance and neutralization theories, we have presented a theoretically coherent account of the role of anticipated negative emotions related to digital piracy - something that has been lacking in the studies drawing solely from the reasoned action framework.

In the media piracy context, cognitive dissonance arises from societal and legal norms that condemn piracy as an illegal behavior. Further, the array of legitimate alternatives provided to the consumers serves to highlight that even

very heavy consumption of music, movies and television series itself is not at odds with societal norms. The current prices of around €10/month for SVOD services are very low compared to, e.g., the expenses of habits like smoking, or to a visit to a restaurant. Thus, piracy is a choice that must be defended when coming across with objections. Neutralization techniques provide the means for this as dissonance reduction mechanisms, because they allow the pirate to change related cognitions, add related cognitions, or alter their importance. For example, they technique of appeal to higher loyalties adds a cognition about other, more important norms. When the dissonance as a psychologically uncomfortable state is successfully relieved, piracy attitudes and intentions may be strengthened, and piracy can continue.

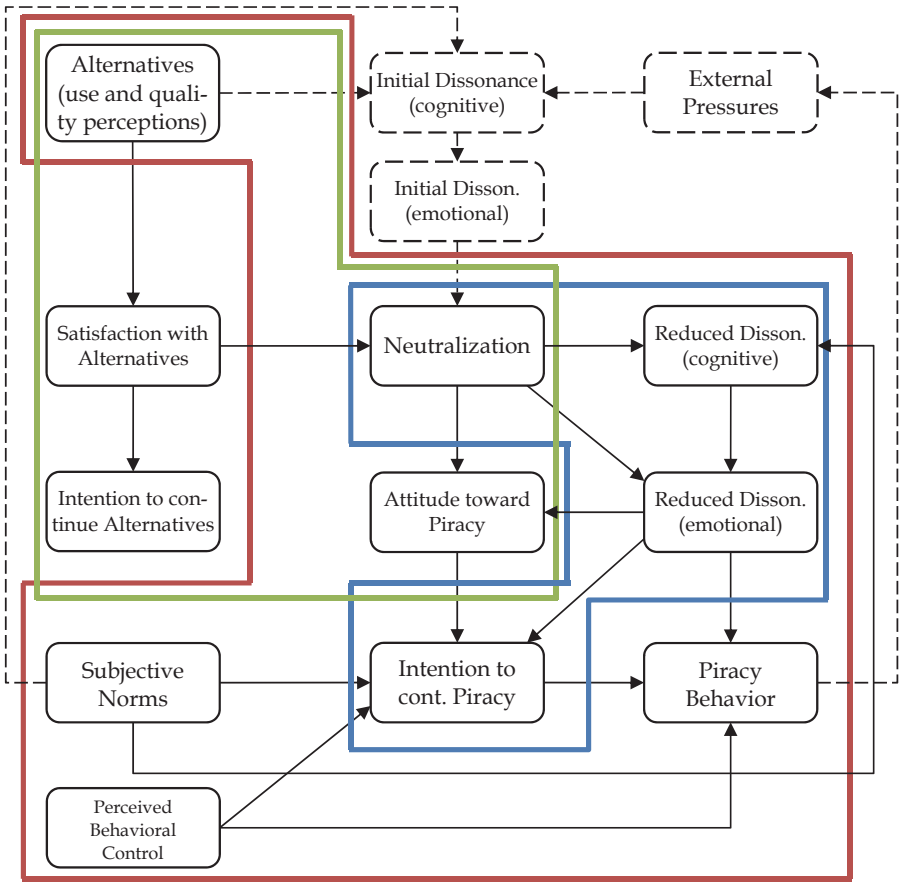


FIGURE 13 An overview of the nomological network of theoretical concepts studied in this dissertation. The concepts enclosed in blue represent the empirical focus of Article II; those in red - Article III; those in green - Article IV. The qualitative Article I focused primarily on neutralizations and attitudes toward piracy.

While the underlying processes of dissonance reduction are rather universal, the piracy-specific aspects of it are subject to considerable cultural differences. Some societies place more value on concepts such as copyright, and protect them with stronger norms than others. The external societal pressures faced by the pirates (the *External Pressures → Initial Dissonance* path in Figure 13) are different in, e.g., collectivist and sharing-oriented Asian cultures and in individualist Western cultures that highly value private ownership of intellectual property. Prior research has shown that when facing similar reproaches of piracy in forms of questionnaires, Asian students tend to score higher in neutralization than their American peers, while not showing any signs of being more immoral in general (Yu 2013). In this case, Asians will opt for a more neutralization-heavy dissonance reduction strategy, because in their experience, those arguments will be well received as accounts. Another perspective is that coming from collectivist cultures, Asians have greater needs for being accepted by others in the society, and thus will go further to protect their good standing.

Contingent on that legal services and piracy options are at least partial substitutes to each other, positive evaluative judgments of legal alternatives will serve as deterrents for dissonance reduction through piracy neutralization (the *Alternatives → Satisfaction with Alternatives → Neutralization* path in Figure 13). As a logical continuation, they will also lead to more negative attitudes toward piracy - this would be a plausible explanation to the reported decline in music piracy. While subscription-based music streaming services are not perfect substitutes to pirate channels, they have been rather successful and have continued to attract new users.

The studies included in this dissertation did not include data about SBMS satisfaction and perceived qualities, but did about SVOD (Article IV). The findings from the SVOD study provided support to the above reasoning. This was despite that in the SVOD context, the substitution argument appears somewhat weaker, as video piracy still continues to grow in volume. In turn, perceived SBMS satisfaction and qualities could have larger effects on neutralization and attitudes than those reported for SVOD satisfaction and qualities. Cox and Collins (2014) have reported that heavy music downloaders have a greater propensity for substitution between legal content and pirated materials than heavy movie downloaders. As per cognitive dissonance theory, the more complete the substitution effect between the legal service alternative and the pirate alternative, the more the decision between the alternatives will affect the evaluation of the unchosen option, i.e., attitudes toward piracy or legal services.

In our video survey data, the principal quality feature underlying SVOD satisfaction was content quality, which reminds us of the core purpose of SBMS and SVOD: to provide convenient access to content. Other qualities need only to be on a "sufficient" level - but this does not mean that they should be ignored: technical complaints seem to be common. More broadly speaking, these antecedents will vary from context to context, and their weights will change as the perceptions about the services shift among the public. There might be some lag in this compared to actual feature and content updates in the services.

4.2 Managerial Implications

Legal services have changed the social norms of piracy

Due to the Internet culture and tradition of freely accessible content, consumer expectations have stood against the attempts to create successful business models for digital content: competing with free is always difficult. Newspapers have been among the most affected, and have experimented with different kinds of paywalls (Myllylahti 2014, Ananny & Bighash 2016). In our context, many music services debuted with free options to gather a large user base before attempting to persuade users to upgrade to paid premium subscriptions. SVOD services offer free trial periods with same objectives.

Still, if the services are received well, they can serve as a source of positive emotions and experiences, and discredit many instances of neutralization. Then, piracy will be increasingly considered to be an outdated and unnecessary mode of media acquisition. From a generational perspective, Generation Z consumers might form more positive attitudes toward paying for online content, compared to those who formed their attitudes and habits earlier when legitimate digital music and video content was not as readily available.

Recently, the growth of music and video streaming has been strong, but there are still some serious underlying problems. First, one can question if the current model of music licensing can be sustained. At some point, the likes of Spotify should start making profit instead of continually increasing their losses as their subscriber base grows. Instead, for the last four years, Spotify's annual operating loss per user average has remained rather stable at approximately €3 (Ingham 2017).

The perceivably unfair royalties paid to artists and their resulting uncooperativeness is a challenge for the future success of SBMS. A-list names Taylor Swift and Adele have previously refused to let their albums be listened on Spotify, but have since backed down from their stances. Some content appears exclusively in certain premium streaming services, either permanently or for a limited time period before becoming available in others. Tidal, an artist-owned service headed by the rapper Jay-Z, claims to pay the highest percentage of royalties to artists and songwriters, and features only paid subscription options (the basic-tier "Premium" and the more advanced "HiFi"). However, the push towards exclusive models may promote piracy, a concern that has been voiced by artists as well.

In the field of movies and television, SVOD services have numerous merits. They have many undeniable advantages over piracy, and are responsible for some notable changes in the way we consume audiovisual media, such as autonomously scheduled binge-watching associated with new release logics (Jenner 2016, 2017). The exclusive content approach taken by the likes of Netflix, Amazon Video, and Hulu has limited their potential to act as general piracy substitutes, but at the same time, the consumers have welcomed the increased

quantity and quality in programming. The continued expansion of Netflix serves as a good indicator of this.

The content and the distribution platform must fit each other

Smaller regionally-oriented service providers have found footing in the market with strategic differentiation: the Swedish-owned SVOD provider Viaplay has succeeded in the Nordic and Baltic regions with original content tailored to those particular markets (Koistinen 2017). For extra charge, Viaplay also offers a broad package of sports broadcasts including the UEFA Champions League, the National Football League, the National Hockey League, the Ultimate Fighting Championship, and others. This may give them an edge over other SVOD providers in the sports fan viewer segment even when it comes to non-sports content.

It appears that consumers may be willing to pay for multiple services, because the subscription fees have remained relatively low[12] compared to the provided value. In addition, many providers continue to offer trial periods, and the subscriptions are flexible in that they are based on short monthly payment cycles, and can be terminated when the customer so chooses. Still, consumers will have limits in their tolerance for multiple subscriptions and willingness to pay.

Well-known and much anticipated shows released on different SVOD platforms in different markets may provide opportunities for natural experiments concerning SVOD adoption and piracy rates. An example is the 2017 launch of *Star Trek: Discovery*, a CBS series set in one of the highest-grossing media franchises of all time. As of its first season, the series is exclusive to the comparatively unpopular CBS All Access streaming service within the US, while international audiences can see the series on Netflix. Both services have the same release schedule, one episode per week. To see the episodes, the majority of the potential US viewers are obligated to either subscribe to a new SVOD service, use geo-unblocking tools to access foreign versions of Netflix, or resort to pirate sources. In turn, many potential international viewers already have a Netflix subscription, and can see the series with no additional cost.

Given these conditions, the differences in the show's viewership and piracy levels between the US and the rest of the world can inform us about consumer choices and preferences in today's competitive and already relatively saturated SVOD markets. Generally, consumers do prefer legitimate versions, but their willingness to pay remains quite low (Ćwiakowski, Giergiczny & Krawczk 2016), which suggests that US viewers will be more likely to pirate episodes of *Star Trek: Discovery* than international viewers. Of course, many may also decide to pass on the series entirely.

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12 As of early 2018, the current subscription fees for most SVOD services in Europe are approximately €10/month (excluding possible sports packages, which tend to be more expensive). This is on par with most SBMS. Netflix offers a more elaborate three-tier system (€7.99 / €10.99 / €13.99), which differentiates between options by access to high-definition resolutions, and by the ability to watch multiple screens at the same time.

Piracy neutralizations should be undermined or countered

The counter-neutralization perspective has a long tradition in restorative justice interventions and crime prevention programs (Maruna & Copes 2005, p. 20). As an IT-specific application, Barlow et al. (2013) studied the effects of persuasive communication targeted to mitigating neutralization in the IT security context, and found it to be just as effective as communication that focuses on deterrent sanctions. Similar interventions should be designed to target specific pirate segments.

The key to countering piracy neutralizations is the message's emotional effect, as the psychological discomfort component of dissonance is more likely affected by dissonance reduction efforts. Facts are not enough - they can be blocked by various defense mechanisms. This is exacerbated by many consumers holding strong negative opinions about record labels, studios, intellectual property enforcers or the industries in general. Thus, idolized artists should be on the forefront of the message, as perceived proximity negatively affects the intention to pirate music from idol singers and bands (Chiou, Huang & Lee 2005). Despite their wide fan reach, superstars may be ineffective, because they are perceived to do so well financially that they are likened to "the industry", and may invoke denial of victim or condemnation of condemners. There are also risks for the idolized artists to be perceived as sellouts, so they need to be perceived as sincere.

If the message draws from economics, it needs to emphasize the effects of piracy on the artists and others in a comparable position, not on record labels and the like. It must be based on the underlying facts, not exaggerations. The economics literature is ripe with studies that can be cherry-picked to bolster almost any argument about piracy. Papers such as the famous Oberholzer-Gee and Strumpf (2007) and Andersen and Frentz (2010) are often cited in defense of piracy, while proponents of strict anti-piracy policies will bring up works by Zentner (2006) and Liebowitz (2008). This kind of discussion will rarely be constructive, and are likely to just ensure that the message is not going to be effective in changing the already formed opinions. Still, the broader academic consensus - that there is indeed a negative effect (Smith & Telang 2012, Liebowitz 2016) - needs to be emphasized.

It seems that many music consumers born during the 1980's have retained their negative industry perceptions and continue to agree with neutralizing sentiments. They have likely formed their perceptions as a reaction to the notoriously strict anti-piracy stance and piracy crackdowns during the earlier phases of the Digital Era. Fortunately, the young Generation Z consumers appear less likely to neutralize music piracy than their slightly older peers. If they are going to resemble the prior generation consumers in their moral development, they will show more negative emotions related to piracy in the future, but will lack the motivation to use neutralization techniques. Thus, the level of music piracy can be expected to remain rather low. However, all this is contingent on that the industry retains a more positive image than it did during the rise of P2P and initial digital music revolution.

More recently, the phenomenon of private piracy tracking and associated settlement demands has begun gain more exposure. In Finland, this was first evidenced by the letters sent in 2012 to suspected music pirates by the Copyright Information and Anti-Piracy Centre (*Tekijänoikeuden tiedotus- ja valvontakeskus ry*), a non-governmental organization for enforcing copyrights. Later, private tracking of movies and television series has become extensive (Lundell 2017). In these cases, certain film distributors and producers have sold limited "P2P distribution licenses" or equivalent to firms specialized in tracking Internet traffic and enforcing copyrights. Some of these are labeled as "copyright trolls" whose operations are perceived to be unethical. It is hard to gauge the long-term effects of private tracking on piracy, because the deterrence effect of increased piracy risk perceptions likely comes with a boost to the general anti-copyright industry sentiment. It may be beneficial to the movie and television production companies that this practice seems to be primarily associated with these specialist companies and law firms who act on their behalf.

The broader effects of digitalization may be positive

Despite piracy being a well-noted and still significant threat to the revenues of major labels and studios in music, television and movie industries, the same developments that have enabled piracy are also responsible for more positive changes.

Digitization and digitalization have driven the costs of production down, removed barriers of entry, and weakened the role of traditional media gatekeepers. As a result, the amount of released content has greatly increased, and many titles from the resulting "long tail" (Brynjolfsson, Hu & Smith 2003, Anderson 2006) of products have proven to be very popular. In the field of entertainment, success is always somewhat uncertain, and a wider range of releases will maximize the number of those titles that will become popular and profitable. Consumers can now take advantage of this "Golden Age of music, movies, books and television programming", as Waldfogel (2017) has described. When this high quality content is paired with appropriate legal acquisition channels, the benefits will not be limited to consumers, but will also extend to content creators and other innovative businesses in the entertainment industries.

4.3 Limitations and Future Research

The studies in this dissertation are limited by various factors, which are discussed in the individual articles. In the following, we will briefly reiterate some key issues, and further consider the overarching limitations of the dissertation.

Article I utilized a rather small set of interviews of young music consumers with piracy experiences. The nature of qualitative neutralization research often causes the respondents to feel the need to defend their actions. In practice, they are confronted with implied reproaches, and their neutralizations are ob-

served. While neutralizations in interviews may be created artificially as post-hoc rationalizations, they will still reflect what the interviewees feel to be most socially acceptable arguments for their pirating behaviors. Even though the interviews were private, the sensitive topic could create social desirability bias in that the interviewees would understate (or in some cases overstate) their piracy behaviors in an effort to please the interviewer.

The quantitative data gathered for Articles II-IV is correlational in nature. Thus, causal effects derived from theory could not be empirically validated in these studies. Both cognitive dissonance and neutralization would be better understood with changes over time. Future research calls for longitudinal and experimental designs. This may prove challenging, as dissonance and its reduction are internal processed which are not easily measured.

Many of the variables in the studies are perceptual, and thus may be subject to biases. Being illegal, piracy is a sensitive issue with possibilities for undesired consequences. As the samples for both qualitative and quantitative studies resulted from self-selection, they may be biased towards those who are more willing to disclose sensitive information. How this trait would affect their patterns of cognitive dissonance and neutralization is not clear.

The hotly discussed issues of common method variance and common method bias are also relevant sources of criticism for these studies. However, recent research (Fuller et al. 2016) suggests that the fears of common method bias may be often overstated. While studies utilizing single source information may contain common method variance, this itself is unlikely to lead to significant biases in estimates in most research settings.

The measurement scales used in quantitative studies were adapted from various sources. Especially, the measurement of piracy-related dissonance constructs relied on prior work in another context, i.e., post-purchase dissonance (Hausknecht et al. 1998, Sweeney, Hausknecht & Soutar 2000). In that context, three different dissonance dimensions were discovered, but the piracy context lacked some of these specificities; piracy-related dissonance was modeled with two dimensions. They were rather consistent across the two studies on music and video piracy. Another limitation related to scales and constructs pertains to neutralization. First, the studies - and quantitative neutralization research in general - rely on acceptance of presented neutralization claims, which is not exactly the same phenomenon as neutralization as discourse, where the offenders must come up with their own arguments. Second, we modeled neutralization as a single first-order reflective construct in all the quantitative studies, while many studies in the literature use multidimensional formulations. Still, we found the unidimensional approach to be sufficient for our current purposes. Further studies could identify the key neutralization techniques in various piracy scenarios, and compare their effectiveness in dissonance reduction.

5 SUMMARY

The topic of this dissertation was consumer digital piracy, which is understood as the illegal use or distribution of copyrighted content by individuals. Its growth has been one of the more well-publicized adverse developments of digital and networked societies. Since the turn of the millennium, consumer digital piracy has irrevocably changed the business environment for the creative industries. The sharp decrease of recorded music sales, especially in the physical album format, is perhaps the best example of the negative effects of digital piracy. However, the growth of legal services in digital music and video is balancing this trend, as consumers have found that pirating is no longer the obvious solution to acquiring music and video content. This has also called for new approaches to piracy research.

Thus, the aim of this dissertation was to study the digital piracy phenomenon particularly in terms of the effects of new legitimate services that have emerged in the fields of digital music and digital video content. These include subscription-based music services (SBMS) like Spotify, and subscription video on demand (SVOD) services like Netflix. We posed the following three research questions:

RQ1: How do young consumers view piracy, and do they give accounts for it using techniques of neutralization?

RQ2: Can cognitive dissonance and neutralization theories be integrated with the reasoned action framework to predict digital piracy, and how?

RQ3: Do the perceived merits of competing legal services and legal service satisfaction shape digital piracy attitudes and behaviors, and through which mechanisms?

Drawing from Sykes and Matza's neutralization theory, Article I served as an initial examination of the digital piracy phenomenon among the so-called Generation Z, and focused on the young pirates' use of neutralizations (RQ1) in a qualitative interview study. Most frequently, Generation Z youths employed the techniques claim of normalcy, denial of victim, and justification by compari-

son. All participants recognized that piracy is at least in some part unethical. Based on these inputs, we formulated further research questions and sought additional theoretical perspectives, later arriving to the theory of planned behavior and cognitive dissonance theory.

Articles II, III and IV utilized quantitative approaches. They drew data from two separate survey questionnaires - the first one focusing on music, and the second on video piracy. The music survey, conducted in spring 2015, underlies Articles II and III (which answer RQ2), while the video survey, conducted in spring 2017, underlies Article IV (which answers RQ3).

Article II served to introduce the mechanism of dissonance-neutralization, and used it to predict music piracy intentions. Because of our survey methodology, data could not be collected about initial, pre-neutralization state of dissonance. As dissonance and dissonance reduction are internal states and processes, they are inherently hard to measure. Regardless, we specified neutralization as affecting both the cognitive and emotional aspects of dissonance identified in prior research. According to the model results, neutralization techniques decreased the dissonance related to piracy, which consists of piracy concerns (cognitive component) and negative emotions (emotional component). On their part, negative emotions inhibited the intentions to pirate in the future.

Article III expanded the dissonance-neutralization perspective to the TPB context. Together with dissonance-neutralization and prior use of digital music stores and paid SBMS, the TPB model - with attitudes, subjective norms and perceived behavioral control - was included in prediction of self-reported piracy behavior. Here, negative emotions were interpreted to primarily define the attitudes toward piracy, which in turn strongly affect the intentions to pirate in the future. Digital music store or paid SBMS use alone had no discernible effects on dissonance or on piracy intentions.

Article IV focused on a more special case, i.e., perceptions related to a particular kind of legal services (SVOD) as an underlying antecedent of neutralization. Technically, this perspective was already included in Article III in form of prior use of digital music stores and paid SBMS, but in a more limited scope. However, based on Article III findings, prior use itself was not a significant factor for dissonance or piracy. Instead as reported in Article IV, satisfaction with the used services was for neutralization. Perceptions about content quality were the most significant predictors of SVOD satisfaction; perceived systems quality and security were had no statistically significant association with satisfaction. In turn, satisfaction accounted for a small-to-medium portion of piracy neutralization, and through it, attitudes toward piracy.

The articles included in this dissertation contain an extended framework of constructs related to digital music and video piracy. The dissertation introduces the mechanism of "dissonance-neutralization" of piracy, i.e., neutralizations tailored to weaken the impact of piracy-induced negative emotions as a mode of dissonance reduction. The findings suggest that quality perceptions about legal alternatives can affect piracy neutralizations and attitudes toward piracy. Content remains the most important success factor and differentiator for

these services. Thus, good legal services have potential to deter piracy. Especially, SBMS can be viewed as having a great role in diminishing music piracy during the past years. On the other hand, SVOD services are more restricted in their catalogues, but with quality original content, consumers may be willing to pay for multiple SVOD services at the same time.

Based on the findings reported in this dissertation, digital piracy can be combated with communications targeted against commonly used neutralization techniques. However, there are limitations to what this can accomplish, as many consumers continue to hold negative opinions about various industry parties, despite the vast improvements in digital services since early 2000s. Efforts should be focused on those problems that require further actions besides communication: if the neutralizing argument is based on perceived true problem faced by the consumers, the problem must be solved in a way that benefits both parties. The past mistakes, such as the overzealous DRM protection in digital music stores, serve as a guide what not to do.

Digital piracy will most likely remain as a significant factor in the music, television and movie industries for the foreseeable future. Still, the current trajectories of legal services seem more promising than in the first decade of the millennium. The younger consumer generation consisting of digital natives, Generation Z, does not seem so attached to sentiments that have made it so difficult to monetize on digital content in the past. In the future, they will for the large part determine the direction of developments.

In a broader view, the developments that have allowed piracy are also responsible for positive changes. As barriers of entry have weakened with digitalization, the increased amount of published content will also results in greater number of profitable releases. This is a great opportunity especially to the many smaller players in the digital content market.

YHTEENVETO (FINNISH SUMMARY)

Tämä tietojärjestelmätieteen tutkimusalaan kuuluva väitöskirja käsittelee musiikki- ja videosisältöjen laittomia hankkimiskeinoja. Tämä yleisesti digitaalisena piratismina tunnettu ilmiö on haastanut aiemmat liiketoimintamallit niin kutsutuilla luovilla aloilla. Äänitemyynnin romahtaminen vertaisverkkoteknologian laajamittaisen käyttöönoton myötä vuosituhannen vaihteesta alkaen on kenties tunnetuin esimerkki piratismiin yhdistetyistä negatiivisista kehityskuluista. Sittemmin myös musiikki- ja videosisältöjen lailliset palvelut ovat kehittyneet huomattavasti. Viime vuosina suoratoistoperiaatetta hyödyntävät tilauspalvelut, esimerkiksi Spotify ja Netflix, ovat kasvattaneet suosiotaan huomattavasti ympäri maailman. Tällä on ollut myös vaikutus etenkin musiikkipiratismiin, joka onkin vähentynyt huippuvuosistaan. Sen sijaan videosisältöjen piratismi on pysynyt edelleen laajamittaisena.

Tässä tutkimuksessa pyritään yhdistämään kolme teoreettista näkökulmaa digitaaliseen piratismiin. Nämä ovat Ajzenin (1991) *suunnitellun käyttäytymisen teoria*, Sykesin ja Matzan (1957) *neutralisaatioteoria* ja Festingerin (1957) *kognitiivinen dissonanssi*. Laillisten musiikki- ja videosisältöpalveluiden yleistyminen näyttäisi vähentäneen piratismin sosiaalista hyväksyttävyyttä ja koventaneen siihen kohdistuvia asenteita, joten piraatit kohtaavat entistä enemmän sosiaalisia paineita. Festingerin teorian mukaan nämä johtavat kognitiiviseen dissonanssiin ja negatiivisiin tunnetiloihin piraattien keskuudessa. Neutralisaatioteoria soveltuu puolestaan erityisen hyvin yhteiskunnan normit pohjimmiltaan hyväksyvien ihmisten suorittamien rikosten ja rikkomusten käsittelyyn - tämä luonnehdinta kattanee myös valtaosan nuorista verkkopiraateista. Vaikka piratismia onkin tutkittu paljon, aiempi soveltava tutkimus ei ole huomioinut riittävästi neutralisaatiotekniikoiden teoreettisia yhteyksiä dissonanssin vähentämiseen. Tämä tutkimus yhdistää nämä näkökulmat.

Tutkimus koostuu neljästä artikkelista ja kokoavasta osasta. *Artikkeli I* käsitteli piratismia harjoittaneiden nuorten musiikinkuluttajien käyttämiä neutralisaatiotekniikoita haastatteluaineistoon nojautuen. Niin sanottuun Z-sukupolveen kuuluvat nuoret käyttivät useimmiten *normaaliksi väittämisen* (claim of normalcy), *uhrin kieltämisen* (denial of victim) ja *vertailun kautta oikeuttamisen* (justification by comparison) tekniikoita.

Seuraavat kolme artikkelia sovelsivat määrällisiä tutkimusmenetelmiä. Ne perustuivat kahteen vuosina 2015 ja 2017 toteutettuun kyselytutkimukseen musiikin ja videosisältöjen kulutustottumuksista. *Artikkelissa II* esiteltiin dissonanssin ja neutralisaatiot yhdistävä teoreettinen malli musiikkipiratismiaikomusten ennustamiseen. Tulosten mukaan neutralisaatiotekniikat vähensivät piratismiin liittyvää dissonanssia, joka kostuu piratismia koskevista huolista (kognitiivinen komponentti) ja negatiivisista tunteista (emotionaalinen komponentti). Negatiiviset tunteet puolestaan ehkäisivät osaltaan tulevia piratismiaikomuksia.

Artikkelissa III malli laajennettiin suunnitellun käyttäytymisen teorian kontekstiin. Tällöin negatiivisten tunteiden katsotaan määrittävän ensisijaisesti piratismia koskevia asenteita, jotka puolestaan vaikuttavat vahvasti piratis-

miaikomuksiin. Sen sijaan maksullisten musiikkitilauspalveluiden ja digitaalisen musiikin nettikauppojen käytöllä itsessään ei ollut vaikutusta dissonanssiin tai piratismiaikomuksiin.

Artikkelissa IV tarkasteltiin syvemmin laillisten palveluiden ja videopiratismia koskevien asenteiden ja neutralisaatioiden yhteyksiä. Sisältöjen laatuun liittyvät näkemykset olivat merkittävin videotilauspalveluihin liittyvää tyytyväisyyttä selittävä tekijä - palvelun koettu tekninen laatu ja koettu turvallisuus eivät puolestaan olleet tilastollisesti merkitsevässä yhteydessä tyytyväisyyteen. Tyytyväisyys puolestaan selitti kohtuullisessa määrin piratismineutralisaatioita ja niiden kautta myös asenteita piratismia kohtaan.

Laajemmin tulkittuna, tämän tutkimuksen osatulokset puoltavat yhdistetyn dissonanssi-neutralisaationäkökulman soveltamista digitaalisen piratismin tutkimukseen. Tutkimuksen perusteella laittomia hankkimiskeinoja käyttäviä kuluttajia voidaan lähestyä neutralisaatiotekniikoiden käyttöä haastavan kohdennetun kommunikaation keinoin. Havainnot tukevat myös käsityksiä laadukkaiden laillisten palveluiden piratismia ehkäisevistä vaikutuksista. Etenkin musiikkitilauspalveluilla voidaan katsoa olevan suuri rooli piratismin vähenemisessä. Videotilauspalvelut ovat puolestaan sisällöiltään edellisiä rajoitetumpia, mutta laadukkaiden sisältöjen ansiosta kuluttajat voivat olla valmiita maksamaan useammastakin palvelusta.

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APPENDICES

Appendix A - Digital piracy studies employing the TRA/TPB framework and its extensions

TABLE 5 Digital piracy studies employing the TRA/TPB framework and its extensions

Study	Focus	Key contributions
Kwong & Lee (2002)	music	TPB, equity theory, deterrence, and computer deindividuation: • TPB measures supported • Equity perceptions strongly associated with attitudes • Deterrence effect of legislation predicts intention and attitude, medium effects • Computer deindividuation moderates subjective norm - intention path
Peace, Galletta & Thong (2003)	software (workplace)	TPB, expected utility, and deterrence: • Deterrence measures (punishment severity and certainty) predict software piracy attitudes • Software cost predicts attitudes • Punishment certainty predicts perceived behavioral control
Chiou, Huang & Lee (2005)	music (pirated CD purchases, unauthorized downloading)	Antecedents of music piracy attitudes: • Attributive satisfaction and perceived prosecution risk have a medium effect on attitude toward unauthorized downloading • Perceived proximity negatively affects the intention to download music from idol singers/bands
d'Astous, Colbert & Montpetit (2005)	music	TPB, past behavior, personal consequences, and ethical predispositions: • Past behavior has strong effects on music piracy attitudes and intentions Effectiveness of anti-piracy arguments: • Arguments stressing negative personal consequences, negative consequences for the artists, and unethical nature of piracy are not effective
Al-Rafee & Cronan (2006)	digital content	Piracy attitudinal determinants in the TPB framework: • happiness and excitement • cognitive beliefs • importance • subjective norms • Machiavellianism • age

Woolley & Eining (2006)	software	TRA and knowledge of copyright laws: • Students' understanding and knowledge of copyright laws have increased since 1991, but knowledge has not influenced software piracy rates
Cronan & Al-Rafee (2008)	digital content	TPB, moral obligation, and past behavior: • When added to the model, past behavior and moral obligation are the strongest predictors of intention • Out of the core TPB antecedents, only PBC is statistically significant ($p < 0.05$)
Goles et al. (2008)	software	Attitudinal determinants in home, work and school settings: • Personal moral obligation and perceived usefulness are significant predictors of attitudes in all settings • Past behavior is a significant predictor of intention in all settings
Morton & Koufteros (2008)	music	TPB and deterrence: • Deterrence measures are ineffective in music piracy attitude prediction
Taylor, Ishida & Wallace (2009)	music, movies	Piracy application of Model of Goal-directed Behavior, which is based on TPB • includes desires and anticipated emotions • argues for attitude-based approach to digital piracy, claiming commonalities with social cognitive theory
Wang et al. (2009)	music	TPB, moderated by idolatry: • Intention to pirate does not have influence on the intention to buy music • Idolatry moderates the relationship between intention to pirate and intention to buy music: for high idolatry, higher piracy intention results in lower buying intention
Al-Rafee & Rouibah (2010)	digital content	Based on TPB (intention), experimental treatments to control piracy in Middle East: law, religion, and awareness • Religion and awareness treatments contribute to a decline in digital piracy • Awareness has higher negative effect on piracy intention
Liao, Lin & Liu (2010)	software	TPB and perceived risk components: • Prosecution risk predicts intention • Psychological risk predicts attitude

Phau & Ng (2010)	software	Modified TPB: • Measures certain dimensions of attitudes with neutralization-like statements • Personal factors have significant relationship with attitude towards piracy • Attitudes and computer proficiency predict intentions
Wang & McClung (2011)	digital content	TPB and attitude functional theory (AFT): • Attitudes have utilitarian, value-expressive, and ego-defensive functions • Perceived social approval predicts intention More likely to download illegally: • Those who believed that piracy would help save money and was convenient • Those who did not want to be termed as being afraid of risk Less likely to download illegally: • Those with illegality concerns • Those with high moral standards
Yoon (2011)	digital content	TPB and Hunt-Vitell integrated model: • Moral obligation and justice predict subjective norm • Perceived benefit, perceived risk, and habit predict attitude • Perceived benefit predicts intention
Al-Rafee & Dashti (2012)	digital content	Extended TPB in two cultures: • Differences in relative strengths of associations • USA: PBC & moral obligation high, ATT moderate, SN no effect • Middle East: ATT high, PBC moderate, moral obligation & SN low effect
Nandedkar & Midha (2012)	music	Modified TRA, perceived risks, facilitating conditions, habit, and optimism bias: • Individuals with optimism bias engage in piracy because they consider themselves to be at lower risk than average
Yoon (2012)	digital content	TPB and Hunt-Vitell model comparison: • TPB is the superior model for digital piracy: explains 43% of intentions, compared to Hunt-Vitellmodel's 18%
Wang & McClung (2012)	digital content	TPB and anticipated emotions, anticipated guilt: • Anticipated guilt predicts intentions for active pirates • Anticipated emotions predict intentions for the whole sample

Akbulut (2014)	software	Based on Nandedkar & Midha (2012): intention, attitude, habit, optimism bias, facilitating conditions, prosecution risk, prior experiences • Studies high school students, undergraduates and adults • Facilitating conditions predict optimism bias • Optimism bias, prior experiences and prosecution risk predict habit, whose effect on intention is partially mediated by attitude
Cesareo & Pastore (2014)	music	Based on TRA, develops a model of consumers' willingness to try SBMS • Involvement and interest with SBMS has a positive influence • Favorable attitude toward online piracy has a negative influence • Importance and exposure to music has no influence • Economic benefits, hedonic benefits, and moral judgment affect attitude toward online piracy
Phau et al. (2014)	movies	Modified TPB (SN as social habit, PBC as self-efficacy): • Discusses neutralization in relation to subjective norms • Affect predicts attitude • Attitude does not predict intention • Moral judgment predicts attitude, intention and piracy behavior • Intention-behavior link is statistically significant but weak
Phau, Teah & Lwin (2014)	movies	Modified TPB: • Measures certain dimensions of attitudes with neutralization-like statements • Facilitating conditions, social factors, collectivism, and personal moral obligation predict attitudes • Social factors, collectivism, personal moral obligation, and attitudes predict intentions
Sang et al. (2015)	digital content	TPB, AFT, level of perception of copyright protection, level of morality, group norm, and moral norm: • Value-expressive functions failed to predict intentions Attitude functions differ between cultures • USA: cost and availability (weak), illegality concerns, afraid of risk • Korea: cost and availability (strong), illegality concerns, overpriced

Udo, Bagchi & Maity (2016)	digital content	Norm Activation Model and UTAUT integrated, individualist/collectivist cultures (USA/India): • Culture moderates the links between awareness of consequences and personal norms, and social influence and personal norms • Social influence has a stronger impact in USA – an unexpected finding • Awareness of consequences has a stronger impact in India • Ascription of responsibility is a an equally significant predictor of personal norms in both cultures

Appendix B - Digital piracy studies dealing with Neutralization Theory

TABLE 6 Digital piracy studies dealing with Neutralization Theory

Study	Focus	Key contributions
Kwong et al. (2003)	music	Mainly about attitude toward piracy and its components: • social cost of piracy, • anti-big business attitude, • social benefit of dissemination, • and ethical belief Some measurement items related to neutralization
Cohn & Vaccaro (2006)	music	Differences exist between cultures and countries in the use of neutralization techniques
Hinduja (2007)	software	Neutralization weakly related to experience with online software piracy
Higgins, Wolfe & Marcum (2008)	music	Longitudinal neutralization-piracy connections supported • The level of neutralization predicts future music piracy
Ingram & Hinduja (2008)	music	Neutralization and piracy do not have a linear association: • Agreement with neutralization primarily associated with medium and moderate music piracy participation
Harris & Dumas (2009)	digital content	Pirates use multiple neutralization techniques to justify the behavior ex ante or rationalize it ex post
Moore & McMullan (2009)	digital content	Interviews with peer-to-peer users: • Denial of injury, denial of victim and claim of normalcy are the most common neutralization techniques • Pirates have no intention to quit
Morris & Higgins (2009)	digital content (music, video, and software treated separately)	Modest support, effects differ between different form of content: • Neutralization has a strong effect on prospective music piracy, but not on video piracy • Neutralization predicts self-reported piracy in all three forms (the effect is strongest for music, then video, then software)
Halttunen, Makkonen & Frank (2010)	music	Indifferent behavior of young digital content consumers is linked to neutralization • Denial of injury is the most utilized technique • The other four originals also seem relevant

Siponen, Vance & Willison (2012)	software	Partial support for neutralization: • Condemnation of condemners and appeal to higher loyalties predict software piracy intentions; other neutralization techniques do not Deterrence theory: • Shame and moral beliefs predict intentions • Formal sanctions (punishment severity and certainty) do not predict intentions
Vida et al. (2012)	digital content	Rationalization mediates the relationship between perceived benefits and piracy intention, but not between perceived risk and piracy intention
Yu (2012)	digital content	Justifying digital piracy at least in part stems from low level of moral judgment Low moral judgment only affects less serious crimes (digital piracy), not more serious crimes
Yu (2013)	digital content	Culture's effect on neutralization (Asian & American students): • Asians are more likely to justify piracy, but do not have lower morality than Americans
Odou & Bonnin (2014)	digital content	Discusses neutralization theory's potential contributions to cognitive dissonance theory Interviews: • Consumers produce an autonomous discursive set around three strategies: disempowerment as neutralizing, pragmatic neutralization, and ideological neutralization
Brunton-Smith & McCarthy (2016)	digital content	Moderate support: • Neutralization is common among pirates, less common among those not involved • Low parental support is more predictive of online piracy than neutralization techniques
Kos Koklic, Kukar-Kinney & Vida (2016)	digital content	Three mechanisms of digital piracy behavior: • individual-level: perceptions of personal risk • interpersonal-level: susceptibility to interpersonal influence • societal-level: moral intensity Examines the direct and indirect effects of these factors on consumer's neutralizations (referred to as rationalization) • Perceptions of personal risk and moral intensity negatively affect the reported piracy behavior • Rationalization mediates the effects of moral intensity, susceptibility to interpersonal influence, and past behavior on future piracy intent

Thongmak (2017)	digital content (software, music, movies, and e-books treated separately)	Neutralization drives pirating of digital products at all levels of piracy seriousness • In the lower level of piracy, morals/ethics can decrease piracy, but in the higher level of piracy, they have no influence on piracy • Neutralization has a stronger effect than morals/ethics in the case of music, e-books, and sharing digital products, and weaker effect than morals/ethics in illegally downloading and keeping software and movies

ORIGINAL PAPERS

I

MUSIC PIRACY NEUTRALIZATION AND THE YOUTH OF THE 2010'S

by

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Music Piracy Neutralization and the Youth of the 2010's

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Abstract

In this qualitative research, music piracy among the youth was studied by applying Sykes' and Matza's neutralization theory. The key objective of the study was to find out how youths view music piracy, and how they give accounts for it using techniques of neutralization. According to the conducted semi-structured interviews, youths do acknowledge the ethical and economic problems of music piracy. However, piracy is still exercised, and in order to justify this, multiple neutralization techniques are used. The most characteristic of the employed techniques was "claim of normalcy", with "denial of victim" and "justification by comparison" also appearing frequently. In order to prevent piracy, these techniques need to be countered. The industry needs to effectively voice that "common" does not equal "right". Recognized artists with reasonable "victim status" should relay the message.

Keywords: Interview, Music Piracy, Neutralization Theory, Youth

1 Introduction

This study explores the ethical and behavioral aspects of music piracy, more precisely defined as copying of a music recording without proper permission from the copyright holder (Gartside, Heales, & Xu, 2006). What do the young pirates of think about downloading, and what can be learned from their arguments and explanations for their behavior?

Digital products such as software, music and video content are characterized by their high initial production costs and very low duplication costs: the cost of creation of an additional digital copy of a music album is practically zero. They are also public goods in a sense that sharing with others does not reduce their consumption utility. With these

qualities, digital content is susceptible to illegal copying and file sharing, or piracy, on the Internet. (Gopal et al., 2004). A large portion of this piracy takes place in peer-to-peer (P2P) networks, in which the users download and share content simultaneously.

It is well known that piracy is most common among the youth (Gopal et al., 2004), especially boys (Chiang & Assane, 2008). According to Salmi (2012), illegal downloading is also the most common crime perpetrated by Finnish 9th grade students (15-16 year olds), with 79 percent having pirated in their lifetime and 71 percent during the last year. However, piracy trends seem more promising: there was no difference in total youth involvement in illegal downloading between 2008 and 2012 (Salmi, 2012). Another survey from Finland, the 2013 issue of the yearly Copyright Barometer (Taloustutkimus Oy, 2013), indicates a significant decrease in illegal downloading of music, movies or games among 15-24 year olds: 61 percent in 2009 versus 33 percent in 2013. However, illegal streaming was on the rise.

Many papers have been published on the subject of economic effects of piracy, with somewhat different findings (Tschmuck, 2010). Regardless of the results of these studies, piracy must be viewed as a major factor in the digital economy. Understanding customers' decision-making processes and ethical thinking should be a top priority for every organization in the industry.

2 Theoretical Background

The theoretical framework for this study is Gresham Sykes' and David Matza's Neutralization Theory (Sykes & Matza, 1957; Matza, 1964). It originated as a criminological theory to explain juvenile delinquency, but has been since applied to a wide array of different norm-breaking behaviors, ranging from shoplifting (Cromwell & Thurman, 2003) to coming to terms with the Holocaust (Hazani, 1991).

At the core of the theory is the notion that juvenile delinquents share the same values as the law-abiding general public. This was directly against the views held by subcultural theorists, who claimed that the subculture of juvenile delinquents has its own shared values that differ from those of the wider society. To alleviate the guilt of violating the values and rules of the society, the delinquents employ certain verbal and mental techniques, which Sykes and Matza termed *techniques of neutralization*. In their article, they distinguished five of such:

- *Denial of Responsibility.* Individuals who employ this technique refuse to accept responsibility for their actions, either by claiming an accident or that they were somehow forced to their illegal actions by circumstances. This is considered to be the most crucial of the techniques.
- *Denial of Injury.* Illegal actions are claimed to be harmless, or that the victim can well afford the losses suffered from aforementioned actions.
- *Denial of Victim.* In this technique, it is recognized that there may be a victim to the crime, but the victim is considered to somehow deserve his fate, possibly as punishment or retaliation.
- *Condemnation of the Condemners.* Behavior is justified on the basis that the victimized are not real victims, because they are hypocrites or that the victims would engage in similar activities were they provided the opportunity.

- *Appeal to Higher Loyalties.* Here, illegal actions are motivated by recognition of the needs of the individual's immediate social group such as their family or a gang.

Subsequent research has identified many additional techniques of neutralization. The present study used the following six additional techniques relevant to digital piracy, compiled by Harris and Dumas (2009): *defense of necessity* ("There was no other choice "), *metaphor of the ledger* ("My good deeds outweigh my bad deeds"), *claim of normalcy* ("This behavior is completely commonplace"), *denial of negative intent* ("I did not mean any harm"), *justification by comparison* or *claim of relative acceptability* ("It's not as bad as…") and *postponement* ("Let's talk about something else"; the action is simply put out of mind). Thus, the uses of a total of 11 techniques were under scrutiny for this study.

3 Neutralization Research on Digital Piracy

Not all neutralization research on piracy has found substantial support for neutralization theory. For example, Hinduja (2007) found neutralization techniques to be only weak determinants of software piracy. He speculates that this was because of respondents did not view piracy as morally reprehensible. However, based on a rare longitudinal study design, Higgins et al. (2008) posit that the level of neutralization utilized affects the piracy that actually occurs - a cogent argument for neutralization theory. In their sample, younger males were most likely to neutralize their behavior.

Certain neutralization techniques have been found to be relevant piracy predictors. Music piracy can be predicted from *denial of responsibility*, *denial of injury*, *denial of victim* and *appeal to higher loyalties* (Ingram & Hinduja, 2008), while the predictors of software piracy have been reported to be *appeal to higher loyalties* and *condemnation of the condemners* (Siponen, Vance, & Willison, 2012).

According to Ulsperger et al. (2010), the most common technique among "Generation Y" respondents was *denial of responsibility*, while the least used was *appeal to higher loyalties*. In their quantitative study, all five original techniques appeared. However, the study was limited to these five techniques, and many of the examples cited could have alternatively been categorized as belonging to some of the above presented additional neutralizations.[1] On the other hand, qualitative studies by Moore and McMullan (2009) and Halttunen, Makkonen and Frank (2010) found *denial of injury* to be the most common technique. Moore and McMullan (2009) also reported that pirates simultaneously employed multiple techniques.

Techniques can also be categorized by their temporal relations to the neutralized behavior. Harris and Dumas (2009) reported that *denial of victim* and *appeal to higher loyalties* are primarily used before the action takes place, while *denial of injury*, *claim of normalcy* and *justification by comparison* are more often used as after-action neutralizations, or as they are known in the neutralization literature, rationalizations.

Another variable in the use of neutralizations is the role of culture (Cohn & Vaccaro, 2006; Yu, 2013). A study by Yu (2013) found that Asian students were significantly

[1] An example: the argument "It is done so much it is not a big deal" was interpreted as *condemnation of the condemners*, while *claim of normalcy* would have been a better fit.

more likely to justify digital piracy with neutralizations than others. Yu (2012) also makes a point that neutralization stems, at least in part, from low levels of moral judgment. Morris and Higgins (2009) note that peer behavior may play a special role in the development of neutralization techniques.

In conclusion, there have been multiple qualitative and quantitative studies on neutralization techniques in the digital piracy context. Each of these approaches comes with their own limitations and weaknesses. The studies differ by the interpretation of the free-form written or spoken accounts, some of them related to different numbers of studied neutralizations. In addition, quantitative measures for neutralization tend to rely on artificial situations presented in surveys, which do not capture the narrative properties of neutralization (Maruna & Copes, 2005).

4 Objectives and Methods

The objective of this study was to gain an understanding about digital piracy (especially music piracy) and its neutralizations among the youth of the 2010's: Are techniques of neutralization employed for music piracy (and how, if applicable), or is piracy considered ethically unproblematic? What actions should be taken to combat piracy? What are the defining characteristics of this generation of digital pirates, and what future developments can be expected? Prior studies' samples have consisted of slightly older individuals (college students), this study thus adding knowledge on the behavior on minors.

The conducted study was of qualitative nature. Because of the chosen research approach, results of the study cannot be generalized to a larger population. However, these findings may be used as a base for new approaches to quantitative neutralization studies.

The informants were recruited from a school complex in Central Finland. A preliminary questionnaire was administered with 9th grade students (15-16 year olds) of the secondary school and 1st and 2nd grade students (16-17 and 17-18 year olds) of the high school. The questionnaire consisted of three questions:

1) Have you downloaded or distributed the following copyrighted works illegally on the Internet? (Music; Movies, Television series, other video works; Video games)
2) Do you currently continue to download or distribute content illegally?
3) Would you be interested in participating in an anonymous interview study concerning music piracy among youth? The interview will last for one hour at most. Fill in only if you have experience with illegal downloading or distribution of content.

At the end of the questionnaire, the students were asked to provide their contact information (phone number, e-mail address) were they interested in participating. For some reason, this method of recruiting proved to be highly ineffective, as only three students filled in their contact information, even though the possibility of winning a small prize by participating was announced. After that, additional recruitment was done by some of the teachers of the school. This took the form of simply encouraging potential interviewees to take part.

Finally, eight students with music or other piracy experiences agreed to participate in a personal interview in a private setting. The interviews were conducted in a semi-structured format, i.e., all of them shared common themes and questions, but there were possibilities to discuss topics in free form and in the order most preferred by the interviewee. The length of the interviews varied between 31 minutes and 53 minutes. Every interview was recorded with a voice recorder and later transcribed as text. A typical interview yielded approximately ten sheets of paper (A4 format) and 30 000 characters of text (in Finnish). Anonymity of the participants was carefully preserved, as their real names were never mentioned either during interviews or transcription. The sample size can be characterized as small even for a qualitative study, but there are nevertheless many insights to be gained from these interviews.

5 Findings

Even if the preliminary questionnaire was ineffective for recruitment purposes, it provided some statistics about piracy. Out of 104 total valid respondents, 85 (81.7 %) had downloaded or distributed content illegally, and 67 (64.4 %) respondents were 'active' pirates. While the sample size of the questionnaire was rather small, the numbers corresponded well with earlier studies about prevalence of piracy in Finland (Hietanen, Huttunen, & Kokkinen, 2008; Salmi, 2012). Piracy numbers in the questionnaire were also comparable with those gathered from United States (Gunter, Higgins, & Gealt, 2010).[2]

Out of the final eight interviewees, five were male and three female. At the time of the interviews, the youngest participant was 14 years of age (b. 1997), while the oldest participants were 17 years of age (b. 1994).[3] Two of them, one male and one female, did not consider themselves as currently active pirates. The male had come to a conclusion that what he was doing was wrong, and had not downloaded anything illegally during the last year. For him, a major way of responding was confession of guilt of prior behavior; a concession. The female resorted to her older sister's (probably partially illegally acquired) music collection to seek new songs.

The interviews began with questions about the participants' background information, such as age, family members, first personal piracy activities that they recalled and music consumption habits. Typically the participants had first downloaded content illegally during the middle to late 00's. Many participants mentioned that they learned how to pirate from older relatives or friends. Illegal downloading was not a common discussion topic with parents, even though parents were well aware of their children's piracy. It was also common and accepted among friends of the interviewees, while they personally knew at least some individuals who were strictly against piracy. The majority of participants also used money for legal acquisition of music, typically in physical CD format. The subscription service Spotify was widely used, but the participants often settled for its ad-based free version and were not willing to pay monthly fees. There also seemed to be a noticeable shift from music piracy to piracy of other content, such as video. Some of the interviewees claimed that the need to pirate music has decreased, as legal alternatives have progressed and are more tempting than before.

[2] Data from Delaware School Survey showed that 52.2 % of 8th grade students (13-14 year olds) and 72.3 % of 11th grade students (16-17) had pirated in their lifetimes.
[3] The interviews took place during May 15–29, 2012.

After that, the interviewees were asked about the ethical qualities of piracy. Asked whether piracy was right or wrong, all participants recognized at least some unethical issues. Many claimed not to have thought about the subject before, and had to ponder the issue during the interview. There was a certain threat of social desirability bias in this setting, so the results must be interpreted in that light.

Neutralization techniques could be identified from each of the interviewee's responses to the questions and scenarios proposed by the interviewer. Five out of eight respondents employed multiple techniques during the interview. The most-used techniques were *claim of normalcy* (six out of eight respondents), *denial of victim* (four respondents) and *justification by comparison* (three respondents). It should be noted that the key technique proposed by Sykes and Matza (1957), *denial of responsibility*, appeared only in one interview. This was to be expected considering the nature of Internet use: users have considerable control of their actions and are rarely "forced" to do anything illegal online.

The following contains examples of each of the used techniques in the interviews (translated from Finnish to English). Some of these appeared to be obvious ex post neutralizations, or rationalizations. However, with the present study design, it was impossible to delve deeper into temporal relationships of neutralization and behavior. As a clarification, it should be noted that two of the original techniques, *condemnation of the condemners* and *appeal to higher loyalties*, did not appear in the interviews, and are naturally absent from the following. This is also the case for the additional neutralizations *metaphor of the ledger* and *denial of negative intent*. In the end, seven out of the eleven studied techniques were used by the interviewees.

Claim of Normalcy: six users (M1, M3, M4, F1, F2, F3)

"It's so common and one just can't consider that it was in any way illegal." (Female #3, age 16)

This technique was used to most. In addition to the notion of piracy being common and thus intuitively not that wrong, there was a link between 'easy' and 'normal': because piracy was considered easy, it was also seen as normal. Low level of perceived risk meant that piracy was not a 'real' crime. Social norms also played a role in casual attitudes towards piracy: it is so widely accepted that the individual feels no need to question the situation.

Denial of Victim: four users (M1, M2, M4, F1)

"… I don't know if it makes sense, but I admit that I have such thought in my head that like Sony is so rich that it isn't very much of a loss for them." (Male #2, age 17)

In most cases, denial of victim used was when responding to presented scenarios. For example, the interviewees were asked to pit a media corporation's interests against those of the artists. In these situations, a large corporation is often in a stronger position to negotiate deals, and when interests collide, the consumers are likely to side with the artist, who is much more familiar to them than a 'faceless' corporation. This is highlighted by the interviewees' general opinion that the artist should receive a larger share of the profit from records sales.

The above was also the case when comparing superstar-level artists and bands to their less popular colleagues, and large record companies to smaller ones. Rooting for the

underdog was a rather universal trait in the sample. Piracy was directed towards those that do not suffer (intuitively thinking) as much from its effects. This implies that pirates consider their actions as ethically wrong, but practical matters often take precedence. It should also be noted that none of the pirates considered themselves 'at war' with the music industry (while some resented the industry's anti-piracy or anti-consumer actions), and were not using piracy as a weapon to hurt their business.

Justification by Comparison: three users (M1, M2, F2)

"Yeah like, even though one keeps downloading something, one doesn't think one is a criminal. That there will be no great pain for the conscience, possibly, unlike with some other crime, like stealing an actual physical object. […] So it feels a bit like that an actual physical good, a physical object like a movie that you steal from a store, there is a greater risk of getting caught and it really feels that you have taken it and you're a criminal, you have wronged. Then you keep the copy, but if you download a movie from the net, watch it, you either keep it there, it can stay in the files, or then you can remove it for example, and then it's gone." (Male #1, age 17)

This comparison technique was used moderately often, and appeared in three different setups in three interviews. The first (Male #1) was to compare piracy to stealing physical objects. In this comparison, piracy is viewed as lesser of the two evils, as it does not take away anything from anybody. Illegally obtained files on a computer clearly fail to generate an emotional effect, if compared to stealing physical objects. Similar arguments have been reported earlier in research on ethics of music piracy (Lysonski & Durvasula, 2008). The second (Female #2) compared the volume of piracy. Female #2 considered herself to be a small player regarding piracy, not someone who is "constantly or every day" downloading. The third comparison (Male #2) was between the ages of downloaded content. It was claimed that downloading older copyrighted material no longer available was less wrong than downloading new content available in stores. Expiration of copyright was used as a supporting argument.

Postponement: two users (F1, F2)

"No, I have just thought that I get good music and can listen to it as much as I like." (Female #1, age 16)

Postponement was used in at least two cases to seemingly attempt to 'dodge' the questions regarding the ethics of illegal downloading, thus refusing to deal with the issue. The other possibility is that the respondents had never questioned the justification of piracy. The respondents were nevertheless asked to consider the matter further, and afterwards they indicated that there are certain ethical problems associated with piracy.

Denial of Responsibility: one user (F2)

"Because it's not, in a way, the fault of those downloaders that, if you put it there, then it's like you distribute then, in a way there's a root to all evil from which it starts." (Female #2, age 15)

Female #2 seemed to represent the common downloaders (and herself) as passive entities who would not seek undeserved advantage if there were no supply for it, thus denying responsibility. She blamed the original distributors for making piracy possible in the first place. She also compared her own actions to theirs, thus simultaneously using the technique of justification by comparison.

Denial of Injury: one user (M3)

(Interviewer) So you don't feel responsible?

"Ehh, not really!" (Male #3, age 16)

It should be noted that Male #3 above was referring to the fact that an individual's own piracy is so insignificant in volume compared to the whole phenomenon, that he does not consider his own actions to be very detrimental to the industry. In other words, he was denying the injury caused by his own actions, not the injury caused by piracy in general.

Defense of Necessity: one user (M5)

(Interviewer) Yes then, why do you, what makes you download if you know that there's something wrong about it?

"Well I don't know, I don't get music anywhere else." (Male #5, age 14)

This technique was clearly apart from others employed in interviews. The above example was its only occurrence in the study. The respondent in question tended to answer all the questions with very short answers, and was the most difficult participant to interview. He had never used money to acquire digital music, and was rather unfamiliar with music stores on the Internet. He also had a strong need to own his music, so streaming services did not satisfy his needs. Against that background, the interviewee's claim of "not getting music anywhere else" can be deemed logical, even though legal options are rather universally present.

6 Discussion and conclusion

The objective of the study was to deepen the understanding about music piracy among youth, especially from the perspective of techniques of neutralization. The basic implication derived from neutralization theory is that anti-piracy education should focus on developing counter-arguments to the employed neutralizations. Thus, certain recommendations can be presented.

Based on this study, special care should be given to combating the frequent *claims of normalcy* by voicing "what is common is not necessarily right". Also, given the current availability of digital music, it can be stressed that there is no need to pirate music anymore. One possibility is to attempt to induce negative emotions towards piracy by representing it as an outdated mode of behavior: *"P2P Downloading? That's so 00's!"*[4]

There are dangers in aggressive anti-piracy campaigns by copyright-enforcing organizations, because the organizations are not viewed as 'proper victims' (*denial of victim*). As a consequence, these campaigns are subject to strong backlash effects. The interviewees reported to respond better to campaigns with visible artist involvement, because artists are the ones admired by the public; their victim status is stronger and harder to deny. However, this is not the case with superstar-level artists, as they are perceived to do so well financially. Thus, relatively known artists - not the superstars, but not those too obscure either - could be used to convey the message in campaigns. To minimize the backlash, the message itself should not be overly "anti-piracy", but more about the possibilities of legal options.

[4] Recently, such messages have indeed been aired among Spotify Free advertisements.

Finally, copyright educators should stress that comparisons between different crimes and behaviors (*justification by comparison*) are not always relevant or fruitful.

It has been noted that perceptions of what is considered ethical change when information technology is present (Molnar, Kletke, & Chongwatpol, 2008), and the actions and attitudes of the interviewed pirates confirm that the presence of IT definitely plays a role in what is acceptable. Anonymity of the Internet and the lack of physical presence of stolen objects make piracy much easier to perform than stealing CDs. While claiming that everybody does it, the interviewees admitted that there are indeed problems associated with piracy. At least, these responses tell what pirating youths expect to be a desirable response to the question of piracy; this is what pirates consider to be widely accepted in society. Hence, if they ultimately share the values of the general public as Sykes and Matza (1957) suggest, they actually consider piracy unethical (even if they answered that way simply to please the interviewer).

The group of interest for this study was the youth of the 2010's. These individuals, all under the age of 18 at the time of the interviews (b. 1994–1997), have lived practically all of their lives in a world of networks, operation systems with graphical user interfaces, and mobile devices. These people have come to know the Internet and its possibilities, such as file sharing, from a very early age: for them, these have always existed. While older individuals are also very capable of acquiring the skills and knowledge to commit piracy, they are not as native to this cultural environment as these youths. There is an argument to be made that the group of interest of this study could be called *Generation Z*, in contrast with earlier studies on Generation Y. Their attitudes toward digital consumption may be different, and they may neutralize their behavior in different ways than the pirates of prior generations. For example, given the improving availability of online music and video, related neutralizations are not going to be applicable to the same extent. Those pirates who rely on discredited neutralizations will likely attempt to develop new neutralization techniques in order to continue their downloading.

The current study has its limitations. First, the qualitative nature of the study and the small sample size make it impossible to generalize the findings. Second, the sample consisted of volunteers, who may have been more comfortable with the idea of talking about their piracy experiences and opinions than their peer pirates in general. Thus, the possibility of self-selection bias must be pointed out. Third, there was a threat of social desirability bias associated with information gathering. Even though the interviews were private and anonymous, the nature of qualitative neutralization research often causes the interviewees to feel the need to defend their actions. This may lead to a situation where neutralizations are created artificially.

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II

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

by

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

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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.

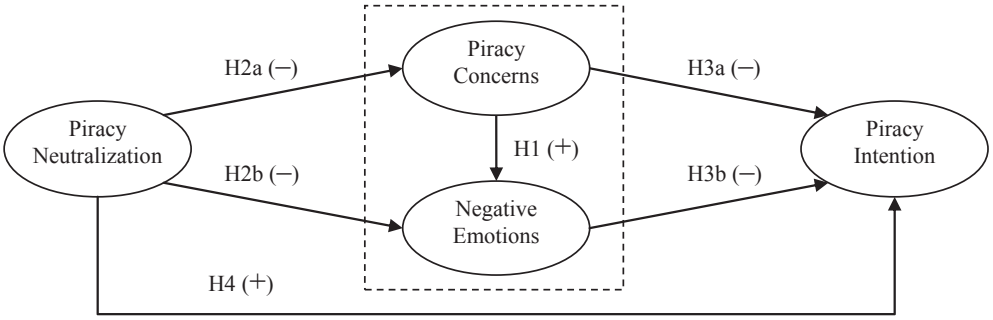

Figure 1. Dissonance-Neutralization theoretical model. Cognitive and emotional dissonance components shown within the box with dashed lines.

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.

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

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.

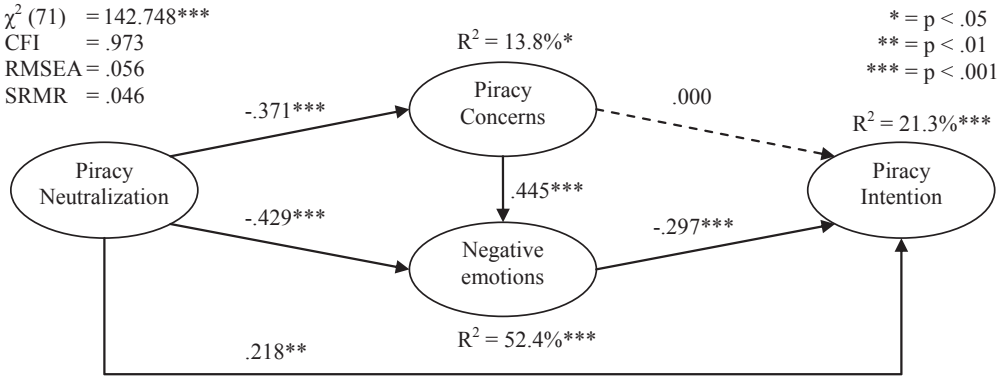

Figure 2. Standardized model estimation results (N = 322).

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 χ^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[a] (n=160)	Male[a] (n=162)	Young (n=120)	Middle[b] (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	**-.638**	**-.219ns**	-.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	**-.513**	**.130ns**
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^2	.318	.136	.353	.116	.211	.284	.234
CON R^2	.187ns	.039ns	.286	.040	.168	.185	.053ns
NEMO R^2	.492	.550	.505	.522	.522	.462	.597
χ^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 ,[a]= partial scalar invariance: intercepts of NEUT4 and CON2 freely estimated. [b]= 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 … I would feel regret.	Roseman et al. (1994) ; Wang & McClung (2012)
NEMO2	.919***	.155***	… I would feel guilty.	
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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III

DIGITAL MUSIC PIRACY IN THE SUBSCRIPTION ERA: AN EXTENDED MODEL FROM COGNITIVE DISSONANCE AND NEUTRALIZATION PERSPECTIVES

by

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Digital Music Piracy in the Subscription Era: An Extended Model from Cognitive Dissonance and Neutralization Perspectives

Abstract

The growing popularity of free ad-based music subscription services has challenged many arguments for pirating music and generated the need to extend extant theoretical approaches. Thus, drawing from dissonance and neutralization theories, we develop and test an extended model that considers also legal paid music services. According to survey data from 299 respondents, the integrated model with an added Dissonance-Neutralization mechanism explained 55.8% of variance in piracy behavior, thus outperforming the theory of planned behavior. Additionally, the proposed Dissonance-Neutralization approach was found to better predict female than male piracy behavior. This study has implications for targeted anti-piracy communication and strategies.

Keywords: music piracy, music subscription services, neutralization, cognitive dissonance, theory of planned behavior

Introduction

Content industries have faced many challenges due to changing markets since the turn of the millennium. One of these has been the rise of digital piracy on the Internet, a threat that the industries

have been vocal to announce to the legislative and regulatory authorities. For example, the International Federation of the Phonographic Industry (IFPI) claimed a few years ago that more than one million jobs in creative industries would be lost in Europe by 2015 because of Internet piracy [1]. Not surprisingly, digital piracy has also received a great share of interest from researchers of different disciplines, such as economics, marketing, criminology, and information systems.

Digital products, such as software, music, and video content, are characterized by their high initial production costs and very low duplication costs: The cost of the creation of an additional digital copy of a particular digital product, such as a music album, is practically zero. They are also public goods in the sense that sharing with others does not reduce their consumption utility. With these unique qualities, digital content is susceptible to illegal copying and file sharing, or piracy, on the Internet [2]. The subject of this study, music piracy, is defined here as the copying or distribution of a music recording without proper permission from the copyright holder. A large portion of this piracy takes place in peer-to-peer (P2P) networks, in which the users download and share content simultaneously. It is well known that piracy is most common among youth [2-4], especially boys or young men [4-7]. However, in developed markets, music piracy appears to have hit its peak in the late 2000s. Since then, various streaming and subscription services (e.g., Spotify and Apple Music) have begun to displace piracy. Globally, IFPI's estimate of fixed-line internet users regularly accessing unlicensed services fell from 26% to 20% between 2014 and 2015 [8,9].

Earlier piracy studies have highlighted the consumers' ethical indifference toward digital piracy [10,11], and shown preference of free digital and paid physical acquisition channels over paid digital acquisition channels [12]. However, during the past few years, consumer attitudes toward consumption and piracy have diversified. Recent qualitative research by Sinclair and Green [13] has identified new and previously disregarded segments of music consumers. These include "ex-downloaders" (ex-pirates)

for whom piracy was always more about utilitarian values (e.g. convenience, price, and quality) than ethics, and “mixed tapes,” sporadic pirates who express high guilt from piracy targeted at smaller artists and labels but who are highly resistant to the mainstream music industry. The latter segment is akin to the “conflicted pirates” that De Corte and Van Kenhove [14] identify in a segmentation study by using quantitative methods. These pirates can be characterized by their positive attitude toward piracy, their view of piracy as an unethical behavior, and their experience of guilt from piracy. These recent changes in consumer behaviors and attitudes have not been sufficiently captured by previous research.

It is against this background that we seek to improve the current understanding of the antecedents of piracy behavior 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 (e.g., it is easier to download illegally than to use legitimate options) 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 [15].

Such recent changes in digital music distribution and consumer behaviors could be matched by applying theory on cognitive dissonance. However, cognitive dissonance has gained less attention in digital piracy research, while Ajzen’s [16,17] theory of planned behavior (TPB) [18-26] and Sykes and Matza’s [27] neutralization theory [28-34] have served as two separate backbones for much of the research. One of the few exceptions to this is the study by Redondo and Charron [35], which explored the consumers’ “payment dilemma” in movie and music downloads through a cognitive dissonance framework. However, their study was not a direct test of cognitive dissonance in terms of behavioral prediction. According to our best knowledge, extant piracy research is thus limited and would benefit from the addition of the cognitive dissonance approach.

To address this research gap, we propose a more comprehensive model that complements intention-based approaches for piracy behavior, e.g., TPB [17], by exploring two additional antecedents of piracy behavior at the same time: cognitive dissonance [36] and neutralization techniques [27]. To the authors' best knowledge, this extended combination has not been previously applied. Based on data collected from a quantitative online survey, we seek to find out how well this approach performs through structural equation modeling (SEM).

Thereby, this study's research question is formulated as follows: In the TPB approach to music piracy, do the additions of cognitive dissonance and neutralization techniques significantly improve the explanatory power of the model?

The rest of this paper is structured as follows. In the second section, we briefly identify and review the relevant literature, and formulate the hypotheses for our research model. In the third section, we describe the used research methods and our measurement strategy. In the fourth section, we present the empirical results. The final section of this paper is dedicated to discussing the implications of this study for both research and practice.

Theoretical Framework and Hypothesis Development

The corpus of digital piracy research is broad, and originates from variety of disciplines, such as information systems, economics, marketing, law, and social psychology. The present paper aims to contribute to the stream of studies that deal with behavioral determinants of piracy. As our aim is to develop a better explanation for consumers' piracy behavior, we seek to integrate the concepts of cognitive dissonance and neutralization with the TPB approach in the context of digital music piracy. The integration of these three perspectives is no simple task. To do this, we will first summarize relevant

literature regarding each of the three perspectives (TPB, neutralization, and cognitive dissonance)[1], and then present the development of our integrated model.

Theory of Planned Behavior and Digital Piracy

The theory of planned behavior by Ajzen [16,17] is one of the most influential theories in human decision-making, and a popular reference theory in information systems research. It is based on the assumption that behavior is determined by behavioral intention and, to a lesser degree, perceived behavioral control (PBC), while intention is formed by attitude toward behavior, subjective norms, and PBC. In principle, the TPB is open to inclusion of additional predictor variables, as long as they can reasonably add to the predictive power of the model; in fact, the TPB itself is an expansion of the theory of reasoned action (TRA) via addition of PBC [37].

In the case of ethical decision-making, the TPB has provided a platform for models such as Leonard et al. [38] IT ethical behavioral model. Outside IS literature, TPB has been extended to predict dishonest actions such as cheating, shoplifting, and lying by including additional measures about moral obligation [37], which refers to "the feeling of guilt or the personal obligation to perform or not to perform a behavior" [21]. Ajzen [17] has indicated that this construct could be added to the TPB as a predictor of intentions alongside other TPB constructs. Schwartz and Tessler [39] also promoted moral obligation to predict ethical intention. Moral obligation has an obvious overlap with the anticipated emotions [40,41] and anticipated guilt constructs [26], which is also apparent when comparing related measurement items.[2]

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[1] Studies that deal with other piracy topics such as economic effects or legal examinations are outside of the focus of this paper, and therefore are not included our in literature review.

[2] An *anticipated guilt* item from [14]: "If I were to download digital content through a peer-to-peer application in the next 2 months, I would feel guilty".
A *moral obligation* item from [13]: "I would not feel guilty if I pirated digital material".

Piracy studies that employ TPB in one way or the other are numerous; a brief overview is presented in the following (Appendix D lists some additional contributions). In one of the earlier music piracy studies, Kwong and Lee [18] employed TPB with three additional constructs grounded on equity theory, deterrence, and computer deindividuation, and found equity perceptions to be strongly associated with music piracy attitudes. In a widely cited paper, Peace, Galletta, and Thong [19] tested a model of workplace software piracy based on TPB with deterrence measures (perceived certainty and severity of punishment) as attitudinal antecedents. In comparison, Morton and Koufteros [22] tested deterrence in the same way for music piracy attitudes, but in contrast to Peace et al. findings, found no support, except for perceived severity of punishment among females. While software and music have different qualities, it is also likely that the private environment related to music diminishes risk perceptions in comparison to the workplace environment, and thus, deterrence measures are rather ineffective. In both studies, however, the hypothesized effects of TPB constructs on intention were supported.

D'Astous et al. [20] tested a basic TPB model for music piracy intention using multiple regression, and observed the standardized path coefficients to range from 0.25 to 0.34 for the three antecedents. When they added past behavior, its effects on attitudes and intentions were strong. Cronan and Al-Rafee [21] further extended TPB with moral obligation and past behavior, and found that effects of these two added constructs were quite dominating compared to others. Working with a similar extended TPB model, Al-Rafee and Dashti [25] found that the relative impacts of the predictor constructs differ between cultures. Yoon [24] compared the TPB and Hunt-Vitell models in piracy intention prediction: the TPB (R^2 = 0.43) clearly outperformed the Hunt-Vitell model (R^2 = 0.18). Yoon [23] also proposed an integration of the two models.

Alternative formulations of TPB that focus more on the attitude construct also exist. In these cases, the measurement of attitude differs from a typical TPB semantic differential scale. Wang and McClung [42] drew from attitude functional theory (utilitarian, value-expressive, and ego-defensive functions), while Phau and Ng [43] leaned on the various statements based on [44,45], some of which are inspired by neutralization theory. Futher, Phau and Ng's model positions the construct "attitude towards pirated software" as a mediator between other determinants and intention. Given the influence of neutralizations, we discuss the implications of this in the next section.

In summary, TPB has proven to be a useful model for digital piracy research. While there are prominent alternative theoretical explanations to digital piracy, such as Triandis' model [46,47], social cognitive theory (SCT) [48,49], and self-control theory [5,50], the accumulated empirical evidence is arguably the strongest overall for the TPB. For reference, Lowry et al.'s [51] piracy meta-analysis identified 70 publications that utilized TRA or TPB, compared to 19 publications that built on SCT or its progenitor, social learning theory. Therefore, in this paper, TPB acts as a reference point and a base for the proposed added constructs and their interactions. A comparison of different model formulations will highlight the merits, or lack thereof, of dissonance and neutralization in this research context.

Neutralization Theory

Neutralization is originally a criminological theory proposed by Sykes and Matza [27] to address juvenile delinquency, but the theory has since been found to be useful in a broad variety of other contexts. It is based on the assumption that deep down, delinquents share the same values as the law-abiding general public does. To lessen the guilt of violating the values and rules of the society, delinquents employ certain verbal and mental techniques. These "neutralization techniques" also make it possible to continue offending. In their article, Sykes and Matza distinguished five of these:

1) *Denial of responsibility*. Individuals who employ this technique refuse to accept responsibility for their actions, either by claiming an accident or that they were somehow forced to their illegal actions by circumstances.
2) *Denial of injury*. Illegal actions are claimed to be harmless, or that the victim can well afford the losses suffered from aforementioned actions.
3) *Denial of the victim*. In this technique, it is recognized that there may be a victim to the crime, but the victim is considered to somehow deserve his fate, possibly as punishment or retaliation.
4) *Condemnation of condemners*. Behavior is justified on the basis that the victimized are not real victims because they are hypocrites or that the victims would engage in similar activities were they provided the opportunity.
5) *Appeal to higher loyalties*. Here, illegal actions are motivated by recognition of the needs of the individual's immediate social group such as their family or a gang.

Subsequent research has identified many additional techniques, such as metaphor of the ledger, defense of necessity, and justification by comparison; Willison and Warkentin [52] provide a brief overview of these. For a more comprehensive look on neutralization theory that goes beyond individual technique issues, see Maruna and Copes' [53] review. In addition to Sykes and Matza's neutralization, others have brought similar but individual theoretical developments forth under different names, such as moral disengagement [54] and self-serving cognitive distortions [55]. According to Ribeaud and Eisner's [56] view, these approaches are largely the same. For convenience, we will refer to this mechanism with Sykes and Matza's terminology in the remainder of this paper.

Neutralization theory has found a receptive audience in organizational and white-collar crime studies [53]. In the IS literature, neutralization has been primarily used as a theoretical lens in

organizational security research: For example, Siponen and Vance [57] and Barlow et al. [58] have studied neutralizations related to employees' IS security policy violations. Summarizing earlier literature, Willison and Warkentin [52] note that corporate employees are far more open to feelings of guilt, opposed to career criminals.

Digital piracy researchers have also adopted neutralization theory (Appendix D). Again, this is fitting, because the typical online pirate is traditionally viewed as a rather normal young individual with greater potential for guilt than career criminals. Typically, researchers have treated neutralization theory by hypothesizing effects from neutralization to piracy intentions or to some measure of piracy participation. An example is Siponen et al. [32], who found through partial least squares analysis that the techniques of "condemnation of the condemners" and "appeal to higher loyalties" predicted software piracy intentions. While researchers have shown that offenders routinely use neutralization techniques, further support for the theory has not been particularly strong: e.g. Hinduja [28], along with Morris and Higgins [31], report only modest support. Brunton-Smith and McCarthy [7] claim that low parental support is more predictive of online piracy than neutralization techniques. However, some longitudinal evidence exists that the level of neutralization affects actually occurring music piracy [29].

In addition to simple exogenous neutralization-intention treatments, some authors have studied neutralization as an endogenous variable. Vida et al. [33] explored neutralization (referring it to as "rationalization") as a partial mediator for effects of perceived risks and benefits on digital piracy intention. In the further work by the same author team [34], neutralization was again in a mediating role, with moral intensity, susceptibility to interpersonal influence, and past piracy behavior as its determinants. Chatzidakis, Hibbert, and Smith [59] have conceptualized neutralization in various roles within the TPB in the context of fair trade purchases. They present that in addition to the neutralization-intention path, neutralization also has a direct effect on behavior, and a moderating effect on the

intention-behavior relationship: the higher the acceptance of neutralization, the weaker the intention-behavior relationship.

While the neutralization-intention approach is rather intuitive and fits well with prior models that lean heavily on well-established frameworks such as TPB, there may be more unexplored indirect mechanisms and other theoretical possibilities related to neutralization. After all, Sykes and Matza's [27] reasoning is based on the exhibition of guilt or shame by the offenders, and that justification of deviance protects their self-image by minimizing these emotions. It seems somewhat surprising that these effects are largely overlooked in favor of neutralization-intention effects. Further, Maruna and Copes [53] suggest that the relationship between neutralization and offending is nonlinear: hardcore pirates would not need to neutralize their behavior, because they are more committed to their subcultural values than to those of the general population. Ingram and Hinduja [30] report that strong agreement with neutralization techniques was primarily associated with medium and moderate piracy participation. This would explain why the direct neutralization-intention effects found in empirical literature are rather weak in the presence of other variables.

Another issue is that a part of the piracy neutralization research lacks theoretical and conceptual clarity. A number of studies [43-45,60,61] discuss neutralization theory in their theoretical framework, but do not transfer the discussion to clearly operationalized constructs or effects, obfuscating the theory's contribution to research. Furthermore, items that could have been used for measurement of neutralization techniques have been presented under the banners of "attitude towards piracy" or "attitude towards downloading", belonging to different subdimensions such as "social consequences" and "social acceptance".[3] This perspective on attitude can be traced to Hoon Ang et al. [44] study on

[3] A *social consequences* item from [61]: "Downloading films and TV shows will take away the jobs of people in the entertainment industry" - arguably a reverse-coded item for *denial of injury*.

pirated music CD purchases. Of course, these sentiments represent various kinds of attitudes in a general sense, but such conceptualization does not align well with the specific terminology used in prior TPB and neutralization research. Ajzen [62] defines attitude toward a behavior as "a person's overall evaluation of performing the behavior in question". Arguably, an overall measure (as in TPB) should not contain such complex dimensionality. In comparison, Ajzen suggests that the construct would be measured by using a sematic differential scale with bipolar adjective pairs in the style of *pleasant-unpleasant*, *good-bad*, and others.

To address the above limitations in neutralization research on piracy, we sought new insights from the perspective of cognitive dissonance. We believe that this theoretical framework can provide the positioning needed to advance the contributions of neutralization in the context of digital piracy.

Cognitive Dissonance Theory

Festinger's [36] cognitive dissonance theory (CDT) 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 behavior is not approved. In Festinger's terms, the cognition of one's behavior (online piracy) and the cognition about the inappropriateness of that behavior are dissonant with each other. When this is recognized, dissonance arousal takes place[4], and causes the individual to experience psychological discomfort. The need to reduce dissonance immediately follows. Three modes of dissonance reduction exist [36,63]: 1) changing one of the dissonant elements, such as attitude or

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A *social acceptance* item from [61]: "Because many people download films and TV shows, I think it is fine for me to do so too" - a textbook example of *claim of normalcy*.

[4] Cooper [63] recognizes that there are certain conditions for dissonance arousal to occur: that the person had made a free choice in performing the behavior, that the behavior has potential unwanted consequences, and that the consequences are foreseeable.

behavior, 2) adding consonant cognitions to increase the overall consonance between elements, and 3) decreasing (increasing) the importance of dissonant (consonant) elements.

In the IS literature, CDT has perhaps had its greatest impact through expectation-confirmation research and Bhattacherjee's expectation-confirmation model of IS continuance [64]. Beginning from the early years of the millennium, IS continuance research has filled an important research gap along and after initial IS acceptance studies, which have been largely based on the Technology Acceptance Model (TAM) [65]. In addition to TAM influences, Bhattacherjee drew from Oliver's [66] expectation-confirmation theory to create his model, and derived the hypothesis of confirmation's elevating effect on perceived usefulness through CDT. More recent models of expectation-confirmation have also been built based on CDT [67,68].

In the case of digital piracy, CDT has not been widely used. Redondo and Charron [35] provide a rare exception in using CDT for their hypotheses on payment differences by different groups of customers. However, their study does not address the predictive power of experienced dissonance on piracy behavior, nor does it attempt to measure dissonance levels from individual responses. Admittedly, measurement of dissonance has been a complex subject for researchers. In experimental situations, dissonance has been manipulated through different means such as having participants write essays or give public speeches contrary their opinions, and measuring the opinion difference between prior and after, but these have been criticized as being artificial and trivial. Most pen and paper scales have been largely ad hoc based. Fortunately, Sweeney, Hausknecht, and Soutar [69] have developed a scale for post-purchase dissonance context, which will serve as a starting point for our dissonance measurement efforts.

Cognitive dissonance is a very broad and general concept that calls for some clarification in the context of our study. Multiple authors have pointed out that cognitive dissonance, despite its name, is

not solely cognitive in nature; e.g., Sweeney et al. [69] conclude that based on evidence, distinct cognitive and emotional aspects of dissonance exist. The cognitive component is the person's recognition that beliefs about piracy are inconsistent with piracy behavior. This has also been labeled as decision dissonance [70]. The emotional component represents "dissonance as a psychologically uncomfortable state" [71].

Sequentially, the cognition about inconsistent beliefs or actions instigates the dissonance process, and psychological discomfort follows [70]. Various dissonance reduction mechanisms are then applied. These represent the third, behavioral dimension of dissonance [70]. It is closely associated with neutralization, albeit this connection is not always directly spelled out in the literature. However, Dootson et al. [72] explicitly pair the two concepts this way: "[n]eutralisation techniques are disengagement tools used to reduce anticipatory or actual cognitive dissonance experienced from performing an act that contradicts with one's underlying values and beliefs". Redondo and Charron [35] also cite Sykes and Matza [27] and note the connection by stating that people "neutralize their dissonance". In the case of our model, we thus tie neutralization techniques in to the domain of cognitive dissonance as specific and extended forms of dissonance reduction.

In addition to CDT providing broader context for neutralization, combining the two perspectives can also result in neutralization theory contributing back to CDT. According to Odou & Bonnin [73], neutralization theory has potential to extend the knowledge on dissonance reduction in at least three ways. While CDT proposes that eliminating the distance between beliefs and behaviors (by attitudinal or behavioral adjustments) is the way to reduce dissonance, neutralization theory recognizes that balance can also be achieved by providing additional discourse that enables the behavior to be dissociated from the norm. Secondly, dissonance reduction in CDT is limited to post-hoc reasoning, i.e., strategies are activated after behavior; neutralization theory states that the techniques can be mobilized before,

during, or after deviant behavior. Finally, CDT has been rather silent about the sociocultural nature of dissonance reduction processes. Neutralization theory deals with deviance from the norms of the reference group without adherence to the values of an alternative group, and, as mentioned, has best fit with “normal” individuals who do not approve of criminality in general.

According to Elliot and Devine [74], psychological discomfort is the preferred component to consider when exploring the dissonance reduction process. Even if both cognitive and emotional components are motivators for dissonance reduction, it is likely that the effect of dissonance reduction is more immediate in the case of discomfort. Thus, we expect that neutralization techniques would be more effective in reducing negative emotions related to piracy, in comparison to altering directly their source, the dissonant beliefs themselves.

We follow the “discomfort” line of reasoning by incorporating the concept of anticipated emotions, previously found in Perugini and Bagozzi’s [40] Model of Goal-Directed Behavior, which Taylor et al. [41] have applied to music piracy. In addition, Wang and McClung [26] have proposed and tested anticipated emotions as an addition to the TPB in their piracy study. The authors specially stress the role of anticipated guilt, which, according to their results, predicted intentions only for frequent downloaders but not for sporadic downloaders or non-downloaders. Building on this, De Corte and Van Kenhove [14] include guilt as a segmentation variable between different pirate segments, alongside attitude and ethical evaluation. Guilt also has links with equity theory as a reflection of reciprocal fairness, which, in turn, is one of the key dimensions of equity in general [75].

Other authors have explored the similarities between guilt and dissonance: Burnett and Lunsford [76] discuss cognitive dissonance as a theoretical explanation for guilt. Stice [77] points out that both dissonance and guilt are states of negative emotional arousal that can be reduced through similar means, such as distorting memories, performing self-affirming acts, and consuming alcohol. The

scales used to measure anticipated guilt and the emotional component of cognitive dissonance seem to contain very similar items, while the dissonance scales also contain additional items not related to guilt. Finally, the moral obligation construct found in various extended TPB formulations [21,37] has been defined as feeling of guilt (and operationalized accordingly), bringing it close to our view of cognitive dissonance. Based on the above observations and findings, we explored the possibility of subsuming guilt into the emotional aspect of dissonance.

Proposing the D-N/TPB Model of Music Piracy Participation

In the integrated Dissonance-Neutralization/Theory of Planned Behavior (D-N/TPB) theoretical model of music piracy participation (Figure 1), cognitive dissonance is hypothesized to partially mediate the effects of attitudes and subjective norms on piracy behavior, and to act as a parallel behavioral predictor with intention. In turn, the utilization of neutralization techniques is hypothesized to act as a dissonance reduction mechanism.

We start our model development on the well-established basic TPB model [17]. Despite some studies finding statistically insignificant or weak path coefficients for subjective norms [21] and PBC [78], the effects of attitude, subjective norm and PBC on intention are generally supported in the prior piracy literature. Fewer piracy studies include behavior measurements, but there are in any case good grounds to hypothesize the same paths from intentions and PBC to behavior as in the general TPB formulation.

Hypothesis 1a: Attitude (ATT) positively influences Piracy Intention (INT).

Hypothesis 1b: Subjective Norms (SN) positively influence INT.

Hypothesis 1c: Perceived Behavioral Control (PBC) positively influences INT.

Hypothesis 2a: INT positively influences Piracy Behavior (DOWNLOAD).

Hypothesis 2b: PBC positively influences DOWNLOAD.

It is likely that for its part, subjective norms will dictate how strong the piracy-related dissonance will be. Theoretically, if piracy is regarded as fully positive and the right thing to do by others (subjective norms), dissonance should not arise. However, it is unlikely that the pirate will be completely shielded from negative portrayals of piracy and that s/he would hold piracy as a "virtue" with no negative qualities. Thus, even pirates with relatively high levels of pro-piracy norms are likely to experience at least some cognitive dissonance. With these considerations, we propose that:

Hypothesis 3: SN negatively influences DISS.

When such psychological discomfort arises, it prompts the implementation of a dissonance reduction strategy [74]. Seen through the lens of CDT, neutralization functions by either adding consonant elements (such as the technique of "appeal to higher loyalties") or decreasing the importance of dissonant elements (such as "claim of normalcy"). Thus, neutralization is one option for coping with the dissonant situation. We propose that:

Hypothesis 4: Neutralization (NEUT) negatively influences DISS.

Another effect discussed in cognitive dissonance research relates to attitude change. In early "free choice" paradigm studies, the presence of dissonance was typically deduced from it [63,79]. It is therefore consistent with dissonance theory to expect that the level of piracy-related dissonance affects attitude towards piracy: the higher the dissonance, the more there are pressures to adopt more

negative attitude towards piracy. At this stage of the dissonance reduction process, methods such as neutralization have already been attempted, and if dissonance persists, the option to abandon positive attitudes becomes a viable option to restore cognitive consistency.

Hypothesis 5: DISS negatively influences ATT.

As noted, cognitive dissonance is the state that arises from holding conflicting cognitions. With the help of neutralizations, a music pirate can simultaneously hold that s/he pirates (and intends to pirate in the future) and hold that piracy, in general, is a harmful form of behavior. However, dissonance arousal in this situation does not necessitate that there is an intention to pirate, only that the individual recognizes that piracy is conflicted. That is, psychological discomfort can be present for non-intenders e.g. in the case they are induced to think about a situation where they themselves would pirate, or when someone they know as a non-pirate would pirate (vicarious cognitive dissonance, [63]). In other words, those with no intention to pirate may or may not have dissonance depending on their views of piracy. In the case of no intention and no dissonance, actual piracy behavior would be normally unexpected, but on the other hand, there would be no strong inhibitions toward it, either. After these considerations, we expect that the inclusion of dissonance as a direct behavioral antecedent will result in a more accurate behavioral prediction in comparison to a model where intention mediates the effect of dissonance on behavior. Thus, we propose that:

Hypothesis 6: DISS negatively influences DOWNLOAD.

As a further extension to the model, we concentrate on the use histories of legal alternatives to acquiring digital music. These include subscription services operating with streaming principles as well as

digital music stores that allow users to download music files. Conventional economic wisdom has it that these are substitutes for illegal downloads, so they should have a negative effect on illegal downloading. Attitude toward piracy has been shown to be negatively associated with willingness to try subscription services [80]. Various accounts, including IFPI statistics [8], show that legal digital music markets are on an upward trend and that fewer users are accessing pirate sites than before. The fact that people are growing accustomed to paid legal alternatives is also likely to highlight the value and norm conflict inherent in piracy. Thus, we propose that:

Hypothesis 7a: Prior use of paid online music subscription services (PAIDSTR) negatively influences INT.

Hypothesis 7b: Prior use of online digital music stores (DMSTORES) negatively influences INT.

Hypothesis 8a: PAIDSTR positively influence piracy-related Dissonance (DISS).

Hypothesis 8b: DMSTORES positively influence DISS.

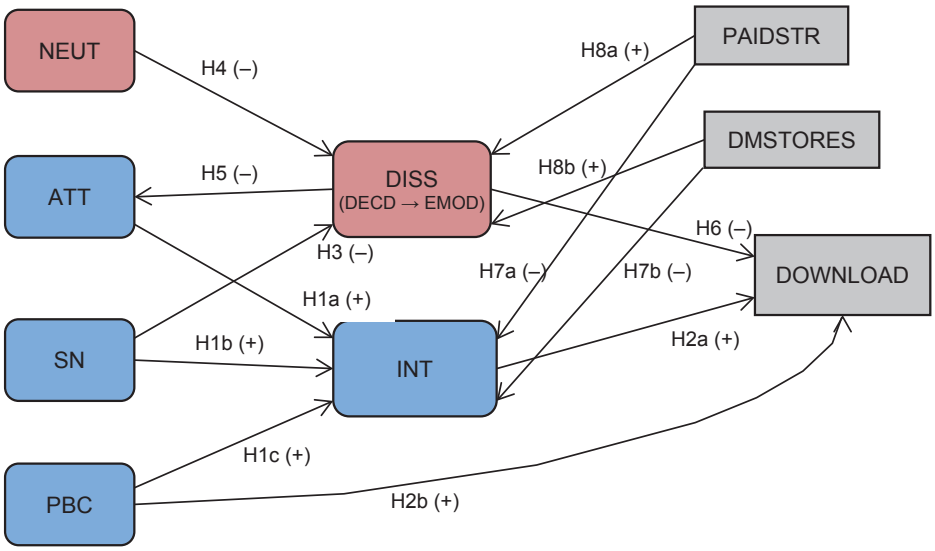

Figure 1. The integrated Dissonance-Neutralization/Theory of Planned Behavior model of music piracy participation. TPB shown in light blue. Dissonance-Neutralization shown in light red. NEUT = neutralization, ATT = attitude, SN = subjective norms, PBC = perceived behavioral control, DISS = dissonance, DECD = decision dissonance, EMOD = emotional dissonance, INT = intention, PAIDSTR = paid streaming services, DMSTORES = digital music stores, and DOWNLOAD = illegal downloading behavior.

To sum up, we consider that piracy neutralization and piracy-related dissonance are inherently linked. Neutralization functions as a dissonance reduction mechanism to increase consonant elements or to lessen the importance of dissonant elements in the cognitive conflict that is likely present in music piracy. Lower levels of dissonance, which are probably required for persisting in piracy, are achieved through higher levels of neutralization. In the remainder of this paper, we refer to this component as Dissonance-Neutralization (D-N).

Methods

The present study utilized data from a self-administered online survey to test the integrated theoretical model through structural equation modeling. Some of the survey questionnaire data were excluded, as the questionnaire also contained measures that were not needed for this study. Before the main data collection, a pilot study was carried out during the fall of 2014 (October 1st - December 1st). In the introductory text of this survey, it was mentioned that nine gift certificates worth 10-50 Euros (150 Euros in total) would be raffled among the respondents. Similar introductory text was later included in the main data collection phase as well.

Of the 84 pilot responses, 48 were completed and valid, resulting in a completion rate of 57.1%. This, along with the received written comments, suggested that the full survey ran slightly too long for the respondents (average: 25 minutes, median: 20 min). For measures related to this study, this resulted in the trimming of the neutralization scale from 36 items to 30 due to some items not loading onto their intended constructs. Rearrangements and small adjustments were also made to other sections of the survey.

The main data collection took place in the winter and spring of 2015 (February 23rd - April 12th). The link to the survey questionnaire was posted to multiple Finnish discussion forums related to lifestyle, music, informational 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 our university.

Piracy behavior, or illegal music downloading (DOWNLOAD), was a self-report measure asking how often, on average, the respondents had acquired music without paying from 1) P2P networks, 2) WWW sites, 3) FTP servers, and 4) other sources on the Internet. The intent of the measure was to capture the respondent's current attachment to piracy, based on the reasoning that higher frequency

reflects greater attachment. While the listed downloading sources were not indicated in the questionnaire as illegal *per se* (as the word *illegal* itself could have scared off some respondents), they are nevertheless close proxies to the actual piracy behavior. For each item, the response options were "daily," "weekly," "monthly," and "less than monthly." Other possible responses included the following: "I have only tried once or twice," "I have quit," "I have never downloaded," and "I cannot say." Excluding the last option, we interpreted the remaining three "inactive" responses as an extension of the frequency scale because these responses also imply different levels of current attachment to piracy behavior. For example, those who have knowingly quit piracy have distanced themselves from piracy more than those who claim to have tried it sometime. Finally, the four sources were collated to one value by selecting the highest downloading frequency value from the aforementioned sources.

The intention (INT), attitude (ATT), subjective norms (SN), and perceived behavioral control (PBC) constructs originating from the TPB were measured following the guidelines presented by Fishbein and Ajzen [81]. The prior uses of paid online music subscription services and online music stores were determined through "Have you ever used…" questions, with the answer options of "yes," "no," and "I cannot say." A brief description of the features of the services was included in the questionnaire to aid the respondents.

For neutralization, the previously mentioned scale of 30 items was used as a starting point. Applicable items from prior literature were utilized [28,82-84] along with new items devised for this study. Initially, neutralization techniques were grouped according to Fritsche's [85] account strategy conceptualization of refusals, excuses, justifications, and referentialization to other norms, behaviors, and persons so that two neutralization techniques and their measurement items represented each account strategy. This resulted in account strategy scales of four to six items each. Then, an exploratory factor analysis (EFA) was run on SPSS to test discriminant validity. The EFA did not result in clear factors

related to respective theoretical constructs. Consequently, the neutralization scale was shortened to just four items (shown in Appendix A), and neutralization (NEUT) was thus treated as a unidimensional construct for the purposes of this paper. The final items represented the techniques of “denial of injury,” “condemnation of the condemners,” “defense of necessity,” and “justification by comparison.” They were selected based on the criteria that there would be a minimal number of missing values (reflecting that the item was easy to understand and answer to) and that the items would satisfactorily differentiate the respondents.

The utilized cognitive dissonance scale was initially adapted from the Sweeney et al. [69] post-purchase dissonance scale. While online piracy is by no means completely analogous to purchasing, we consider them to be comparable in many ways. Decisions to pirate are often meaningful and can have consequences in terms of psychological costs, which may well induce dissonance. Of course, there are no immediate monetary losses, but significant monetary sanctions may follow if sufficient evidence of piracy falls to the hands of the authorities or the copyright holders.

This dissonance scale was modified and condensed to better represent the characteristics of digital piracy: Some scale items were omitted, as they were not deemed to be relevant in the piracy setting (and to limit the length of the survey questionnaire), while some were reworded to apply better to piracy. In the first phase, it contained 11 items and three dimensions, whose counterparts in a purchase context were originally dubbed by Sweeney et al. as “emotional” (five corresponding items in our questionnaire), “wisdom of purchase” (two items), and “concern over deal” (four items).

As mentioned earlier, anticipated emotions were included because of their closeness to dissonance. Divided into guilt and general positive emotions (three items each), they were operationalized with scales developed from Roseman, Wiest, and Swartz [86] and Wang and McClung [26]. Ultimately, general positive emotions were not utilized in the model. However, they served to add

balance to the questionnaire otherwise dominated by negative items and to keep respondents more focused by adding variation, thereby partially addressing issues with common method bias.

The EFA of anticipated guilt and the emotional component of dissonance suggested that the two were not distinguishable from each other but instead loaded strongly to one common factor. Anticipated guilt was thus incorporated in the cognitive dissonance domain. Further factor analysis led to a higher-order factor solution for dissonance, represented by dimensions “emotional dissonance" (EMOD, four items - corresponding to dissonance as psychological discomfort) and “decision dissonance” (DECD, three items - corresponding to the cognitive component of dissonance). The second-order dissonance construct (DISS) was measured by these two first-order constructs. All measurement items are listed in Appendix A.

The SEM model was estimated using the Mplus 7.11 structural equation modeling software with robust maximum likelihood (MLR) as an estimator. MLR was chosen because of its applicability to both normal and non-normal data. Missing values were handled with the default option of Mplus, full information maximum likelihood (FIML). IBM SPSS Statistics 22 was used for supporting data analyses.

Results

In the main data collection phase, there were 369 responses, of which 271 were completed, resulting in a completion rate of 73.4%, which was considerably higher than in the pilot study. Average and median response times were similar to those of the pilot study (27 min and 19 min, respectively). Combining the pilot and main samples, there were 319 completed responses. Due to missing values in the predictor variables PAIDSTR and DMSTORES, the final usable sample size for SEM analysis was 299.

The sample was almost evenly split between men (50.5%) and women (49.5%). A slight majority of the sample were students (55.5%), approximately a third (35.1%) were employed, and the rest (11.4%) were classified as “other” (including unemployed, pensioners, and those who provided no

answer). The female subsample was younger (mean = 29.7 years; median = 25.5) and consisted mainly of students, but males (mean = 33.7 years; median = 30) were more evenly divided into students and employed. In general, men had more experience with all three forms of music consumption. In total, 72.6% of all respondents had experience with downloading without paying, which was used in this article as a proxy for piracy, as mentioned above. Slightly over half of men and less than half of women had used paid streaming services, for a combined figure of 46.8%. Digital music stores were the least familiar form of consumption, with 35.1% having experience. Descriptive statistics can also be seen in Table 1.

	Women	Men	All
N	148 (49.5%)	151 (50.5%)	299 (100%)
Has experience with downloading without paying (piracy)?			
Yes	91	126	217 (72.6%)
No	55	21	79 (26.4%)
Data missing	2	4	6 (2.0%)
Has bought from digital music stores?			
Yes	42	63	105 (35.1%)
No	106	88	194 (64.9%)
Has used paid streaming services?			
Yes	61	79	140 (46.8%)
No	87	72	159 (53.2%)
Socioeconomic status			
Student	101	65	166 (55.5%)
Employed	32	68	100 (35.1%)
Other	15	18	33 (11.4%)
Age (years)			
Range	20 … 72	17 … 63	17 … 72
Mean	29.3	33.7	31.5
Median	25.5	30	28

Table 1. Descriptive demographic statistics.

Construct Reliability and Validity

Construct reliability was assessed by examining the internal consistency of each construct in the model. Cronbach's alphas for the constructs ranged from 0.770 (DECD) to 0.978 (INT), each exceeding the common cutoff value of 0.70 [87]. All alphas are reported in Appendix A. Composite reliability (CR)

coefficients were also calculated (Tables 2A and 2B), and the scores for all constructs (0.635 to 0.978) were well above the 0.70 threshold, save for the second-order dissonance construct (DISS).

To assess the convergent and discriminant validity of the model, the method proposed by Fornell and Larcker [88] was applied: For a model to show satisfactory convergent validity, the average variance extracted (AVE) for each construct should be greater than or equal to 0.50. In other words, each construct should be able to explain at least half of the variance in its indicators. For discriminant validity, 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.

Construct AVEs and correlations conformed to these conditions with the exception of the DISS construct (AVE = 0.473), which correlated slightly too strongly with ATT as well as with EMOD, of which the latter was expected as the first-order EMOD construct acted as an indicator for the second-order DISS construct. Thus, in general, the model can be considered satisfactory in terms of both convergent and discriminant validity. Given the somewhat questionable validity figures of DISS, we recommend the development of alternative measures or models of dissonance in future research. The alternative decomposed model satisfied the criteria better (see the description of alternative models in the Hypothesis Tests section and Appendix C). With these caveats, we consider the current exploratory measures acceptable for the purposes of this paper. For each construct, the AVE, the square root of AVE (on-diagonal cells), and the correlation with other constructs (off-diagonal cells) can be seen in Tables 2A and 2B.

As another test, linear regressions with collinearity diagnostic were run on SPSS with construct scores obtained from Mplus. When all seven first-order constructs from the theoretical model (i.e., those listed in Table 2B) were entered as predictors of DOWNLOAD, their variance inflation factor (VIF)

scores ranged from 1.537 to 4.406. These were below the general threshold value of 10 suggested in the literature [89], and further, should not cause problems in the context of our sample of N=299.

	CR	AVE	INT	ATT	SN	PBC	NEUT	EMOD	DECD	DISS
INT	*0.978*	*0.936*	**0.967**							
ATT	*0.954*	*0.838*	0.709	**0.916**						
SN	*0.919*	*0.792*	0.498	0.527	**0.890**					
PBC	*0.896*	*0.743*	0.218	0.345	0.346	**0.862**				
NEUT	*0.831*	*0.551*	0.468	0.652	0.463	0.474	**0.742**			
EMOD	*0.931*	*0.771*	–0.499	–0.678	–0.494	–0.324	–0.609	**0.878**		
DECD	*0.770*	*0.528*	–0.351	–0.476	–0.346	–0.227	–0.428	0.445	**0.727**	
DISS	*0.635*	*0.473*	–0.627	–0.851	–0.618	–0.406	–0.765	0.796	0.559	**0.688**

Table 2A. Composite reliabilities (CR), average variances extracted (AVE), square roots of AVEs (on-diagonal cells), and inter-correlations between constructs (off-diagonal cells) for the main proposed model.

	CR	AVE	INT	ATT	SN	PBC	NEUT	EMOD	DECD
INT	*0.977*	*0.933*	**0.966**						
ATT	*0.954*	*0.838*	0.694	**0.916**					
SN	*0.919*	*0.792*	0.387	0.322	**0.890**				
PBC	*0.896*	*0.743*	0.154	0.237	0.353	**0.862**			
NEUT	*0.831*	*0.551*	0.353	0.453	0.463	0.482	**0.742**		
EMOD	*0.929*	*0.765*	–0.528	–0.714	–0.450	–0.331	–0.634	**0.875**	
DECD	*0.768*	*0.525*	–0.333	–0.419	–0.351	–0.227	–0.417	0.582	**0.724**

Table 2B. Composite reliabilities (CR), average variances extracted (AVE), square roots of AVEs (on-diagonal cells), and inter-correlations between constructs (off-diagonal cells) for the alternative decomposed model.

Indicator Reliability and Validity

All measurement items except for the first decision dissonance indicator DECD1 met Fornell and Larcker's [88] criteria for standardized residuals (1 – λ2) being less than or equal to 0.50, which ensures that at least half of the variance of each indicator is captured by the construct to which it loads. This is equal to the standardized loadings (λ) of the indicators being greater than or equal to 0.707. The standardized loading of DECD1 was 0.686, which was close enough to the threshold that it did not

warrant exclusion. Another offender was the DECD construct itself (λ = 0.559) when interpreted as an indicator for the DISS construct. This result led us to seek alternative structures of dissonance in later phase of the analysis.

All standardized indicator loadings and residuals are reported in Appendix A. Item means, standard deviations, and bivariate correlations are reported in Appendix B.

Model Fit

Looking at goodness-of-fit, the chi-square test of model fit rejected the model (χ^2 (308) = 552.429, p = 0.000), but it is commonly acknowledged that this could also be due to large sample sizes rather than the actual misfit of the model with the data [90]. Because of this, other fit indices, such as the root mean square error of approximation (RMSEA), the standardized root mean square residual (SRMR), the comparative fit index (CFI), and the Tucker-Lewis index (TLI), are instructed to be used alongside it. According to Hu and Bentler [91], the recommended cutoff criteria are values below 0.06 for RMSEA, below 0.08 for SRMR, and above 0.95 for CFI and TLI. It should, however, be noted that in the case of smaller sample sizes and more complex models, these thresholds may not be reached, and, for example, a CFI or TLI as low as 0.90 may be reasonable. In the case of our model, these fit indices suggested good or acceptable fit (RMSEA = 0.052, SRMR = 0.065, CFI = 0.955, TLI = 0.949).

Hypothesis Tests

Two out of three TPB paths to intention, ATT → INT and SN → INT, were statistically highly significant (p < 0.01), thus confirming that piracy intentions were strongly influenced by attitudes (β = 0.634) and, to a lesser degree (β = 0.186), subjective norms. The third path, PBC → INT, was not significant at p < 0.05 level. Thus, *H1a and H1b* were supported, but *H1c* was not.

The two antecedents of piracy behavior proposed in the TPB were both significant. Intention had a moderate effect (β = 0.353) on piracy. The second path, PBC → DOWNLOAD, indicated that

perceived behavioral control had a positive, albeit weak (β = 0.161), effect on piracy behavior. With these, *H2a and H2b* were supported.

Pro-piracy subjective norms decreased the dissonance caused by piracy. Consequently, *H3* was supported. Neutralization was linked to dissonance as theorized (β = –0.609); *H4* was supported. Finally, dissonance was a significant predictor of attitude (β = –0.851) and piracy behavior (β = –0.395); *H5* and *H6* were supported. All tested hypotheses are shown in Figure 2 and Table 3.

The prior use of legal music acquisition alternatives PAIDSTR (paid streaming services) and DMSTORES (digital music stores) had no statistically significant effect on piracy intention or dissonance. Thus, none of the hypotheses from *H7a* to *H8b* was supported.

The performance of the proposed model should be interpreted in comparison with the models it aims to integrate. The TPB model explained 49.0% of the variance in piracy behavior and 54.1% in intention. In comparison, the D-N model alone accounted for 43.3% of behavior. Both of these models benefited only marginally from the additions of legal alternatives.

However, the best-performing model was the full proposed model (Table 4; see also Appendix C). With the additions of legal alternatives, dissonance, and neutralization, it contributed an extra 6.8 percentage points of explained variance in behavior ($R^2_{DOWNLOAD}$ = 0.558) compared to the base TPB, and an extra 12.5 percentage points compared to the base D-N.

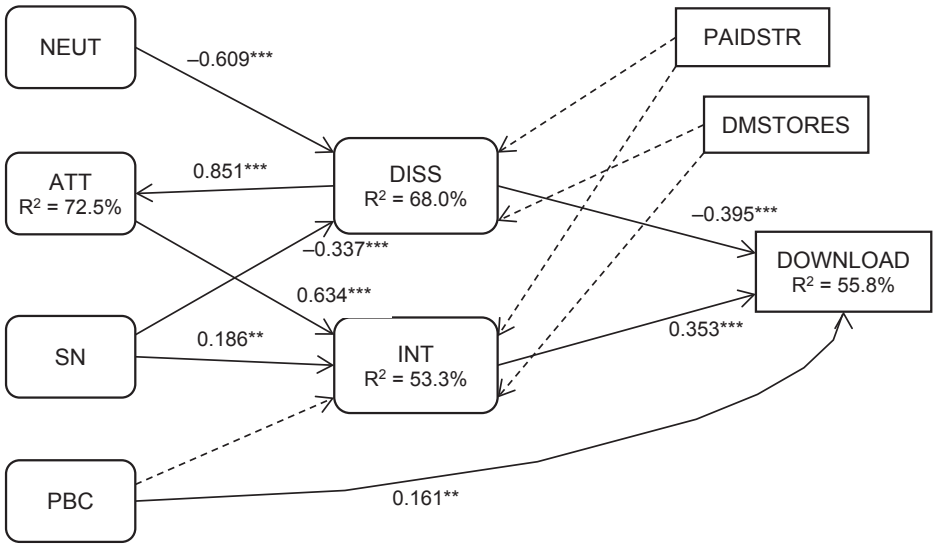

Figure 2. Standardized model estimation results (* = p < 0.001, ** = p < 0.01, * = p < 0.05). χ^2 (308) = 552.429, p = 0.000, RMSEA = 0.052, SRMR = 0.065, CFI = 0.955, TLI = 0.949. For item loadings and residuals, see Appendix A.**

Hypothesis (exp. sign)	Path(s)	β	p	Conclusion
H1a (+)	ATT → INT	0.634	0.000	Supported
H1b (+)	SN → INT	0.186	0.002	Supported
H1c (+)	PBC → INT	–0.065	0.099	Not supported
H2a (+)	INT → DOWNLOAD	0.353	0.000	Supported
H2b (+)	PBC → DOWNLOAD	0.161	0.001	Supported
H3 (–)	SN → DISS	–0.337	0.000	Supported
H4 (–)	NEUT → DISS	–0.609	0.000	Supported
H5 (–)	DISS → ATT	–0.851	0.000	Supported
H6 (–)	DISS → DOWNLOAD	–0.395	0.000	Supported
H7a (–)	PAIDSTR → INT	–0.056	0.188	Not supported
H7b (–)	DMSTORES → INT	0.069	0.131	Not supported
H8a (+)	PAIDSTR → DISS	–0.060	0.213	Not supported
H8b (+)	DMSTORES → DISS	–0.027	0.572	Not supported

Table 3. Hypothesis test results. Standardized path coefficients (β) reported.

We also tested two alternatives to the main proposed model (Table 4; Appendix C). In the first alternative model, the sole modification was that a new path DISS → INT replaced the originally hypothesized path DISS → DOWNLOAD (H8). Thus, the effect of dissonance on downloading behavior was mediated by intention, instead of being a parallel and separate predictor as in the primary model. This alternative hypothesis was not supported: model fit was worse, and the new path was neither statistically significant nor to the hypothesized direction (β = 0.266, p = 0.071). Variance explained in DOWNLOAD was practically equal to the TPB model, well below the primary model.

In the second alternative model, the two dimensions of dissonance were represented as first-order constructs DECD and EMOD. All paths targeted to the primary model's DISS construct (which was removed for this model) were duplicated to target both DECD and EMOD individually. Both DECD and EMOD were then entered as predictors of piracy attitude and behavior. In addition, a new path from DECD to EMOD was estimated. This was based on the dissonance sequence, which is, according to theory, initiated by the cognitive component, which gives rise to the emotional "dissonance as psychological discomfort" phase [70].

Neutralization had a slightly larger estimated effect on EMOD (β = –0.424, p = 0.000) than on DECD (β = –0.324, p = 0.001); this was somewhat supportive of our prediction based on Elliot and Devine [74]. In addition to NEUT, EMOD had one other statistically significant predictor, DECD (β = 0.362, p = 0.000). The only significant effect related to legal options was between DMSTORES and DECD, but this was not in the expected direction: those with prior use experiences with digital music stores did not have as much decision dissonance (β = –0.129; p = 0.047). However, the effect is so marginal that it cannot serve as a basis for further conclusions. As a behavioral predictor, EMOD was supported (β = –0.180; p = 0.022) alongside INT and PBC, while DECD was not (β = –0.076; p = 0.352). Within the

cognitive dissonance framework, this supports the view that the emotional component has the proximal role in terms of behavior, and that it effectively mediate the effects of the cognitive component. The model captured 50.3% of variance, outperforming the TPB by a slight margin, but not quite reaching the primary model.

Model	R^2_{INT}	R^2_{DISS}	$R^2_{DOWNLOAD}$
TPB	0.541	-	0.490
TPB + legal alternatives	0.551	-	0.491
D-N	-	0.537	0.433
D-N + legal alternatives	-	0.542	0.439
Full proposed D-N/TPB model	*0.533*	***0.680***	***0.558***
Alternative DISS → INT model	0.558	0.664	0.488
Alternative decomposed model	0.522	-	0.503

Table 4. Comparisons between different theoretical models. For fit indices, see Appendix C.

Gender Differences

It is also relevant to look for the potential gender differences in our sample; such differences have often been reported in the piracy literature [4-7]. The requirement for the meaningful comparisons of subgroups, such as different genders, is establishing measurement invariance between those groups. At least configural and metric invariance are needed for the comparisons of regression coefficients, and construct mean comparisons come with the additional requirement of scalar invariance. It is of note that the lack of full measurement invariance related to a given construct is not always a problem: As long as the construct exhibits a level of partial measurement invariance in which it is measured by at least one invariant item besides the fixed marker item, its properties can be reliably compared across groups [92]. To check these levels of measurement invariance in our sample, we applied the procedures outlined by Steenkamp and Baumgartner [92] and Chen, Sousa, and West [93].

In the procedure, increasingly strict parameter equality constraints are imposed on the model, and the changes in model fit between these steps are assessed. For these assessments, the first indicator was the Satorra-Bentler scaled χ^2 difference test. Satorra-Bentler scaling [94] had to be used

because the models were estimated using the MLR estimator. As recommended [92,95], the $\Delta\chi^2$ approach was supplemented by the use of various other fit indices (Table 5).

First, we estimated the model separately for men and women, with only equality constraints concerning the simple structure of the model. Given the relatively small subgroups (N_{WOMEN} = 148, N_{MEN} = 151) and the complex nature of the model, the fit of this configural invariance model was acceptable (χ^2 (616) = 972.600, CFI = 0.934, TLI = 0.925, RMSEA = 0.062, SRMR = 0.079).

Next, the metric invariance test included constraining first-order construct loadings to be equal among groups and comparing the model fits between the resulting full first-order metric invariance model and the previous configural invariance model. In turn, this model was compared to the model where the second-order construct loadings were also constrained to be equal. The $\Delta\chi^2$ test suggested no significant deterioration in either step. Thus, full metric invariance was established.

Scalar invariance builds on metric invariance by constraining the item and the first-order construct intercepts to be equal between groups. Again, the analysis proceeded in two steps. The item intercept scalar invariance model (referred to as "1st order" in the table below) was first compared to the second-order metric invariance model. Full scalar invariance was rejected by the $\Delta\chi^2$ test. Based on modification indices, the intercepts of NEUT4 (MI = 22.683 [women] / 22.684 [men]) and DECD2 (MI = 18.618 / 18.620) had to be allowed to vary between groups. After this, both NEUT and DECD had at least one invariant intercept beside the marker item. This was enough to compare the first-order construct means and intercepts. Then, to be able to compare the second-order construct intercepts, another scalar invariance model (referred to as "2nd order" in the table below) also with the first-order construct intercepts of EMOD and DECD constrained was compared to the item intercept model. This form of invariance held.

In the final phase, we tested regression invariance by constraining regression coefficients equal between groups, as Deng et al. [96] demonstrate. Any path equality constraints lifted in this phase would imply that the association in question is of different strength among subgroups. However, the constrained regression model showed no deterioration of model fit compared to the final scalar invariance model. Thus, all paths could be determined to be equal between groups.

Level of invariance	CFI	TLI	RMSEA	SRMR	χ^2	df	Scaling corr. f.	$\Delta\chi^2$	Δdf	p
Configural Invariance	0.934	0.925	0.062	0.079	972.600	616	0.9969	-	-	-
Full Metric (1st order)	0.932	0.925	0.062	0.085	997.790	633	0.9969	24.224	17	0.091
Full Metric (2nd order)	0.933	0.926	0.062	0.085	998.087	634	0.9968	0.210	1	0.647
Full Scalar (1st order)	0.925	0.919	0.065	0.089	1056.562	650	0.9978	57.204	16	<0.001*
Partial Scalar (1st order) 1	0.929	0.924	0.063	0.088	1031.766	649	0.9982	33.116	15	0.0045*
Partial Scalar (1st order) 2	0.932	0.927	0.061	0.086	1013.827	648	0.9981	16.091	14	0.308
Partial Scalar (2nd order)	0.932	0.927	0.061	0.086	1015.258	649	0.9982	1.439	1	0.230
Full Regression	0.931	0.927	0.061	0.093	1037.224	663	0.9986	21.948	14	0.079

Table 5. Model comparisons to check for different levels of measurement invariance across genders.

Note that contrary to standardized estimates used for full sample results, here, we report unstandardized estimates (B) for comparability purposes.

Gender differences were mainly limited to construct means. Looking at the three exogenous latent variables (subjective norms, perceived behavioral control, and neutralization), men scored significantly higher than women (who acted as a reference group) in perceived behavioral control and neutralization. This is consistent with demographic statistics about a greater share of men having music piracy experience. Especially, it would be tempting to consider the notable neutralization difference (0.748, p = 0.000) as an explanation for prior reports of more common piracy participation among men

[5,6]. Despite this, men and women seem to perceive the prevalent piracy norms similarly, as there was no statistically significant variation between genders in subjective norms.

The mean scores of the three endogenous latent variables (attitude, intention, and dissonance) were also expectedly different between groups: Men exhibited more positive attitude ($t(297) = 3.767$, $p < 0.001$), stronger intention ($t(297) = 2.215$, $p = 0.028$) and weaker dissonance ($t(297) = 3.271$, $p = 0.001$) than women did. Intercept differences in the latent variables were nonexistent, and thus, the mean differences in the endogenous latent variables were mainly caused by the mean differences in the exogenous latent variables of the model.

Finally, the model performed better overall in predicting piracy behavior in the case of women. The fully constrained regression invariance model explained 58.3% of variance in DOWNLOAD for women and 50.2% for men (Table 6). The primary reason for this was that among women, dissonance was particularly predictive of attitudes (or, among men, attitudes have more unexplained variance due to omitted causes; R^2_{women} = 82.7% - in contrast with R^2_{men} = 64.4%).

	Women	Men
Construct means		
SN	0.000[a]	0.150
PBC	0.000[a]	0.853***
NEUT	0.000[a]	0.748***
ATT (S.E.) ***	0.060 (0.046)	0.598 (0.134)
INT (S.E) *	0.017 (0.060)	0.365 (0.144)
DISS (S.E.) **	–0.061 (0.048)	–0.571 (0.147)
Construct intercepts		
ATT	0.000[a]	0.030
INT	0.000[a]	–0.016
DISS	0.000[a]	0.048
Non-invariant item intercepts		
NEUT4	2.759	2.074
DECD2	3.784	3.025
Paths		
ATT → INT	0.667***	
SN → INT	0.141*	
PBC → INT	–0.020	
INT → DOWNLOAD	0.438***	
PBC → DOWNLOAD	0.166*	
PAIDSTR → INT	–0.150	

	DMSTORES → INT		0.136
	PAIDSTR → DISS		–0.101
	DMSTORES → DISS		–0.067
	SN → DISS		–0.258***
	DISS → ATT		–0.993***
	NEUT → DISS		–0.668***
	DISS → DOWNLOAD		–0.635***
Variance explained (R^2)			
	ATT	0.827	0.644
	INT	0.543	0.500
	DISS	0.590	0.643
	DOWNLOAD	0.583	0.502

Table 6. Multi-group analysis results for women and men: construct means / intercepts, non-invariant item intercepts, path coefficients, and variance explained (R^2). Unstandardized estimates reported ([a] = fixed to zero, *** p < 0.001, ** p < 0.01, * p < 0.05).

Common Method Issues

The measurements of the study were collected from a single source; this is a source of common method variance (CMV), which may or may not cause common method bias (CMB) in the study's causal relations. Certain procedural techniques can be used in an attempt to minimize CMV and its potential biasing effects [97]. In this study, measurement items were grouped under different blocks of questions to create psychological separation, and the item order within the blocks was randomized to avoid multiple consecutive indicators of constructs being interpreted as identical to one another. Not all of the scales used were the same: Semantic differential scales were used for attitude items, while other constructs were measured with five-point Likert scales, and the criterion variable (piracy behavior) with a scale anchored with points related to frequency. Where there were potential threats of item ambiguity, brief definitions of used terms were given alongside the questions.

To assess the amount of common method variance, we applied post-hoc statistical tests. However, we note that such post-hoc tests may identify CMV that is not at biasing levels. Frequently,

authors overlook the distinction between CMV and CMB, and mistakenly treat post-hoc statistical test evidence of CMV as evidence of CMB [98].

Harman's single factor test was conducted first. Researchers have interpreted this test as producing evidence of CMB if the share of variance captured by one factor in an EFA exceeds 50%. In our data, less than half of the variance (42.83%) of all measurement items was captured by a single factor. While Harman's single factor test is typically considered insensitive and not that well suited to its intended purpose [97], a recent simulation study [98] found that the test fails to detect upward CMB in causal relationships only when CMV approaches 70% or more. As CMV of this magnitude is unlikely to be found in typical surveys, CMB might not be as serious concern as it has been regarded to be.

Following the suggestions by Podsakoff et al. [97,99], we also considered other alternatives to measure the amount of CMV, and decided to take a single unmeasured latent method factor, or common method factor[5] approach to the issue in the confirmatory factor analysis (CFA) framework. In it, a first-order factor with all of the indicators in the theoretical model is added to the measurement model. The interpretation of test results is such that if the addition of this common method factor significantly improves model fit, evidence of CMV/CMB exists.

Applying procedures recommended by Widaman [100], we estimated four models: Model 1, a null model with no factors underlying data; Model 2, a single method factor model; Model 3, a measurement model based on theoretical factors (traits); and finally, Model 4, the previous traits model with the added method factor. Again, we used the five different statistics to compare the models (Table 7).

Models 1 and 2 had both a very poor fit, whereas Model 3 provided a good fit. When estimating Model 4, the indicator ATT2 caused problems by loading negatively to the ATT construct, and was

[5] This is also referred to as the unmeasured latent method construct (ULMC) technique.

constrained to one as a remedy. Comparing Models 3 and 4, the improvement in χ^2 was statistically significant ($\Delta\chi^2$ (22) = 47.932, p = 0.001). While the four additional fit indices also improved, the gain of fit was generally so small that it should be interpreted as negligible.

Model	CFI	TLI	RMSEA	SRMR	χ^2	df	Scaling	$\Delta\chi^2$	Δdf	p
1: Null	-	-	0.248	0.403	5345.652	276	1.1666	-	-	-
2: Method Factor	0.539	0.495	0.176	0.127	2587.477	252	1.1515	2457.652	24	0.000*
3: Trait Factors	0.962	0.955	0.053	0.051	429.698	235	1.0415	891.608	17	0.000*
4: Trait Factors + Method Factor	0.968	0.959	0.050	0.044	374.057	213	0.9523	47.932	22	0.001*

Table 7. Model comparisons of different trait and method factor measurement models.

By analyzing the sums of squared factor loadings, it is possible to partition the captured variance between the trait factors and the method factor [101]. In this case, 39.9% of variance was attributed to traits, 34.9% to method, and the remaining 25.2% to error. The share of the method variance was indeed substantial, but not excessive; for a reference, Williams et al. [101] have observed an average of 27% in the context of self-reported affect and perceptions at work. It should be noted that the common method factor may capture not only different types of CMV, but also variance due to relationships between the constructs other than those hypothesized [97]. Again, based on simulations, these estimated levels of CMV are unlikely to cause any noticeable upwards CMB [98].

Discussion and Implications

This article extends the current theory of digital piracy by showing that the recent changes in digital music distribution and consumer behaviors as well as the controversial and illegal nature of piracy call for a wider range of theoretical components and interactions. Earlier, when legitimate music services were not widely known or adopted, music piracy could easily be justified as an obvious solution for easily acquiring music in digital form. Therefore, reasoned action models seemed to be sufficient in explaining consumers' piracy behavior in the late 90's and early 00's. However, now that free ad-based

(or affordable) subscription services have become a part of the public's awareness, music piracy appears as more unethical and controversial than ever before. Because these considerable changes in the music industry and consumption habits have not been–yet should be–reflected in the theoretical models used in piracy research, our paper contributes to existing knowledge by addressing them and presenting a more comprehensive model that better explains individuals' piracy intentions and behaviors.

Previous works (e.g. [30,32,33]) have drawn from neutralization theory, but have been lacking in the broader theoretical framing and role of neutralizations. Although some references to cognitive dissonance theory have been made in prior literature, the connection between the different viewpoints has not been sufficiently discussed or recognized in the context of digital piracy. To our best knowledge, this is the first study to integrate the three theoretical perspectives (TPB, neutralization, and cognitive dissonance) in order to explain digital music piracy behavior.

The goal of this paper was to formulate and test an integrated D-N/TPB model of end-user digital music piracy behavior by using SEM. According to our model, piracy is determined not just by intentions to pirate and behavioral control, as proposed in the TPB. Instead, insights from CDT suggest that cognitive dissonance is a parallel behavioral predictor alongside the TPB constructs. By integrating neutralization theory, the proposed model also includes a mechanism through which dissonance can be manipulated to allow for the continuation of digital piracy: Neutralization techniques either add consonant cognitive elements that support piracy or decrease the importance of piracy-related dissonant elements. For example, the importance of an element in the dissonant relationship lessens with the assertion that "there are more important crimes to deal with than music piracy".

We found empirical support for the proposed integrated model with the Dissonance-Neutralization mechanism: The integrated model outperformed the base TPB model, increasing the variance explained by roughly seven percentage points in self-reported piracy behavior. Comparing

effect strengths in the proposed model, the newly introduced two-dimensional dissonance construct was actually the strongest predictor of piracy, ahead of intention and perceived behavioral control.

Thus, the paper comes up with a novel finding for music piracy literature: In addition to intentions and behavioral control issues, the strength of conflicting cognitions (cognitive dissonance) and the capability to regulate them (neutralization) are significant determinants of piracy behavior. We suggest that researchers add these aspects to their theories and research models when explaining music piracy participation. Further, our model comparisons suggest that the effect of dissonance on piracy behavior is better modeled as direct, instead of being mediated by intentions. In addition, emotional factors appear to contribute more to piracy behavior than cognitive factors, which nevertheless have a role as antecedents of emotions. The psychological discomfort construct (EMOD) had a clearly stronger indicator loading than the cognitive (DECD) in the second-order dissonance construct. This was also supported by our alternative model, where the two constructs were modeled as distinct from one another.

The findings suggest that gender-specific issues affect piracy behavior through dissonance and neutralization. According to our findings, women would exhibit greater dissonance, whereas men were considerably more prone to using neutralization techniques clearly associated with lower dissonance. Coupled higher predictive power of dissonance on attitude among women, the model was able to predict women's piracy behavior better than men's. Therefore, our findings could guide researchers in examining whether these effects are more specifically caused by gender differences in, for example, IT usage skills, the estimation of the probable risks of piracy, and/or knowledge about the potential consequences of illegal downloading.

In this study, the roles and effects of legal alternatives remained rather unclear, as the hypothesized effects of digital music store and streaming service use histories were not verified by the

data. It is likely that prior use itself does not affect piracy intentions or cause cognitive dissonance, because it does not tap into customer (dis)satisfaction. Instead of adoption decisions, the perspective to the connection between legal alternatives and piracy should thus focus on continuance behaviors, and perhaps draw insights from expectation-confirmation theory.

Recently, some discussion has taken place particularly on the effects of music streaming services on music piracy. Borja, Dieringer, and Daw [102] found that music streaming increased the likelihood of engaging in music piracy by approximately 20%, and did not expect that the adoption of music streaming services would reduce piracy rates. However, this assertion is in conflict with developments in the digital music market. Globally, piracy is in a slightly downward trend [8,9], and, for example as early as 2013, nine out of 10 of the Swedish paying subscribers of Spotify claimed to download illegally "less often." The Swedish music market also grew an overall 34% from 2008 to 2013, with 70% of the revenue coming from digital music in 2013 [9].

We can find one explanation for the Borja et al. [102] results when we consider the matter from an adopter characteristics point of view. As the authors themselves note, the previous users of music streaming services have been more technologically savvy than non-users. This technological interest is also tied to engaging in music piracy, which explains their increased piracy participation numbers in the aforementioned [102] study. However, as the popularity of music streaming services rises, the increase will be inherently due to increasing numbers of technologically non-savvy users (i.e., late adopters) adopting the services. This is the current case with developed digital music markets, such as Sweden, where subscription services have reached not only tech-savvy early adopters but also other segments of the population. For them, music piracy will not be a relevant option for acquiring music after streaming service adoption. At the same time, general anti-piracy norms will gain more presence. Thus, we do not believe that the adoption of music streaming services will increase piracy numbers in the long-term

perspective; instead, it is more likely to have a decreasing effect on them through its propensity to increase cognitive dissonance by weakening the effect of neutralizations.

This study's practical implications for curbing music piracy rise from the domain of dissonance. Anti-piracy communication should be designed to maximize dissonance arousal, but at the same time, the message should not be easy to subvert by using mental techniques such as neutralization. This involves arguing against the typically used neutralization techniques, such as "claim of normalcy," "denial of the victim," and "justification by comparison" [103,104]. 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.

Keeping in mind the observed greater role of dissonance in female piracy behavior, these kinds of anti-piracy campaigns are likely to have greater effects on female audiences. Among males, higher potential for neutralization will require greater exposure to anti-piracy communication to offset the neutralization effects. A further segmentation of music pirates [13,14] could improve the efficiency of such approaches by revealing the critical issues and the effects of dissonance and neutralization for most important pirate segments. This would allow for more effective targeted strategies.

Limitations and Future Research

As always, the study at hand is not without limitations. The current study utilized a cross-sectional sample, which means no inferences can be made about the temporal dynamics of the observed effects. For example, this study does not answer the question of whether neutralization precedes or follows piracy behavior.

As the psychometric properties of the second-order dissonance construct were less than ideal, alternative operationalization strategies and model formulations should be sought in future studies. The

present study considered an alternative where the two recognized aspects of dissonance (cognitive and emotional) were modeled as individual constructs. This approach had the benefit of being able to make even more specific theoretical predictions about piracy antecedents than the main proposed model. While this model did not have as good fit with the data (the fit was still reasonable), it specifically pointed towards an association between the emotional component and behavior, and revealed that the cognitive component only affects behavior through emotions.

As typical with cross-sectional designs, the issues of possible CMV and/or CMB remain. Indeed, 35% of variance in measurement items could be attributed to a common method factor. However, a greater share (40%) was still attributed to the proposed trait factors. According to a recent simulation study [98], such levels of CMV are unlikely to cause any noticeable upward biases in the estimates of causal relations. Related issue is that the data consist of entirely self-reported measures. Given that piracy remains a rather sensitive and private topic with possibilities for undesired consequences, anonymity-preserving self-report measures are a logical choice to collect data, and have been widely used in prior literature (e.g., [21,32]).

With the issue of the sample being collected online, there is bound to be some self-selection bias in respondents. Those who are more willing to disclose potentially sensitive information are likely overrepresented in the sample. Looking at demographics, the sample is noticeably younger and more highly educated than the whole Internet population in Finland, due to university students comprising a large portion of the sample. Caution is therefore advised when it comes to generalizing the results. Cultural issues may also constitute a limitation, as related violations of norms and laws may be viewed differently across cultures and countries.

Future research could look into the matter in a video piracy context and investigate the role of legal online video subscription (Netflix, HBO’s online services, etc.) in the Dissonance-Neutralization

framework. With increases in Internet connection speeds, video piracy today is far more feasible than before. Also, due to market differences, legal video services are not able to offer as broad catalogues as their music counterparts. Unsurprisingly, they appear to lag behind their music counterparts in adoption in many markets.

Echoing Lowry et al.'s [51] call, we suggest extending the current theoretical perspective to users who do not engage in piracy, and to the factors of their non-engagement. An experimental setup could also look into the trajectories of neutralizations and dissonance in new adopters of video streaming, whether they have previously been pirates or not. These could be contrasted with their piracy attitudes and behaviors. A longitudinal perspective would be of great benefit, as both of the theoretical perspectives, cognitive dissonance and neutralization, are better understood with changes over time.

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Appendix A: Standardized Indicator Loadings, Residuals, English Translations, and Cronbach's Alphas

	Loading	Residual	Measurement Item Translation	α
INT1	0.964***	0.070***	I plan to illegally download music during the next three months.	0.978
INT2	0.962***	0.075***	I will likely illegally download music during the next three months.	
INT3	0.976***	0.048**	I intend to illegally download music during the next three months.	
ATT1	0.917***	0.160***	To you, the thought that you would download music unauthorized from the internet sounds … bad - good	0.953
ATT2	0.935***	0.126***	… unpleasant - pleasant	
ATT3	0.888***	0.211***	… foolish - wise	
ATT4	0.922***	0.150***	… uncomfortable - appealing	
SN1	0.958***	0.082***	Many people close to me illegally download music.	0.913
SN2	0.923***	0.147**	Illegal downloading of music is common among those close to me.	
SN3	0.778***	0.395***	Many people close to me consider illegally downloading music to be a good idea.	
PBC1	0.872***	0.239***	If I wanted to, I could illegally download music in the next three months.	0.890
PBC2	0.891***	0.206***	I possess the necessary knowledge, skills and other resources to illegally download music in the next three months.	
PBC3	0.821***	0.325***	Excluding my own unwillingness, there is nothing that would prevent me from illegally downloading music in the next three months.	
EMOD1	0.889***	0.209***	If I were to download music without proper permission during the next three months … I would feel regret.	0.931
EMOD2	0.921***	0.151***	… I would feel guilty.	
EMOD3	0.857***	0.265***	… I would feel I am in the wrong.	
EMOD4	0.843***	0.290***	… I would be disappointed with myself.	
DECD1	0.686***	0.530***	… I would wonder if the downloaded content was what it was supposed to be.	0.770
DECD2	0.778***	0.394***	… I would wonder if the downloaded content contained viruses or other malicious software.	
DECD3	0.713***	0.492***	… I would wonder if I had been somehow fooled.	
NEUT1	0.735***	0.459***	Downloading does not cause harm to artists.	0.845
NEUT2	0.730***	0.467***	Copyright laws have been formed to benefit of media corporations, and they are far too restrictive from consumer perspective.	
NEUT3	0.775***	0.399***	Downloading is justified, if there is no possibility to acquire music legally.	
NEUT4	0.729***	0.469***	Compared to other crimes, illegal downloading is not a "true" crime.	
EMOD	0.796***	0.367***	N/A	N/A
DECD	0.559***	0.687***	N/A	

Five-point Likert scales anchored from "completely disagree" to "completely agree" were used, except for Attitude items, which were measured with five-point semantic differential scales. Original items in Finnish are available upon request from the authors. For loadings and residuals, *** = $p < 0.001$, ** = $p < 0.01$, * = $p < 0.05$.

Appendix B: Item Means, Standard Deviations, and Bivariate Correlation Coefficients

	Mean	S.D.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1. INT1	1.671	1.202	1												
2. INT2	1.823	1.307	0.926	1											
3. INT3	1.762	1.262	0.942	0.937	1										
4. ATT1	2.110	1.212	0.685	0.712	0.682	1									
5. ATT2	2.127	1.147	0.614	0.619	0.606	0.866	1								
6. ATT3	2.274	1.295	0.622	0.656	0.628	0.833	0.810	1							
7. ATT4	2.201	1.157	0.603	0.623	0.627	0.819	0.881	0.821	1						
8. SN1	2.724	1.344	0.426	0.479	0.467	0.480	0.453	0.480	0.485	1					
9. SN2	2.618	1.301	0.453	0.505	0.487	0.501	0.465	0.505	0.489	0.886	1				
10. SN3	2.590	1.270	0.376	0.405	0.395	0.494	0.492	0.531	0.487	0.748	0.700	1			
11. PBC1	4.293	1.217	0.191	0.220	0.220	0.318	0.306	0.309	0.344	0.285	0.256	0.281	1		
12. PBC2	4.116	1.342	0.217	0.235	0.223	0.284	0.298	0.289	0.357	0.254	0.254	0.219	0.775	1	
13. PBC3	4.140	1.280	0.179	0.192	0.177	0.265	0.271	0.231	0.309	0.322	0.280	0.262	0.713	0.734	1
14. EMOD1	2.571	1.339	-0.335	-0.370	-0.338	-0.482	-0.498	-0.516	-0.576	-0.291	-0.290	-0.316	-0.357	-0.383	-0.354
15. EMOD2	2.849	1.433	-0.390	-0.408	-0.396	-0.538	-0.570	-0.559	-0.640	-0.324	-0.301	-0.379	-0.378	-0.358	-0.337
16. EMOD3	3.193	1.386	-0.442	-0.476	-0.456	-0.616	-0.613	-0.632	-0.666	-0.421	-0.402	-0.427	-0.348	-0.326	-0.305
17. EMOD4	2.499	1.462	-0.375	-0.402	-0.389	-0.509	-0.533	-0.550	-0.575	-0.394	-0.358	-0.393	-0.380	-0.371	-0.331
18. DECD1	2.787	1.429	-0.121	-0.124	-0.117	-0.217	-0.215	-0.172	-0.214	-0.170	-0.153	-0.133	-0.306	-0.236	-0.305
19. DECD2	3.197	1.497	-0.207	-0.229	-0.193	-0.296	-0.333	-0.258	-0.313	-0.235	-0.199	-0.238	-0.323	-0.286	-0.331
20. DECD3	2.174	1.309	-0.217	-0.265	-0.227	-0.312	-0.309	-0.311	-0.330	-0.334	-0.316	-0.279	-0.477	-0.353	-0.410
21. NEUT1	2.076	1.108	0.253	0.290	0.295	0.434	0.496	0.457	0.437	0.304	0.334	0.362	0.223	0.208	0.205
22. NEUT2	3.274	1.337	0.245	0.290	0.289	0.420	0.419	0.432	0.448	0.276	0.302	0.332	0.318	0.352	0.315
23. NEUT3	2.886	1.512	0.323	0.377	0.319	0.516	0.492	0.556	0.448	0.330	0.334	0.385	0.397	0.338	0.345
24. NEUT4	2.919	1.318	0.265	0.281	0.265	0.393	0.469	0.422	0.408	0.336	0.322	0.342	0.259	0.237	0.263
25. PAIDSTR	0.468	0.499	0.018	0.038	0.034	0.075	0.112	0.091	0.127	0.030	0.027	0.113	0.142	0.117	0.065
26. DMSTORES	0.351	0.477	0.063	0.082	0.042	0.020	0.022	-0.015	0.036	-0.004	-0.032	-0.037	0.142	0.176	0.127
27. DOWNLOAD	2.909	1.522	0.587	0.626	0.609	0.599	0.573	0.594	0.610	0.498	0.475	0.471	0.383	0.407	0.320

(The correlation matrix continues on the next page.)

	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.
14. EMOD1	1													
15. EMOD2	0.828	1												
16. EMOD3	0.741	0.802	1											
17. EMOD4	0.790	0.766	0.689	1										
18. DECD1	0.313	0.298	0.241	0.332	1									
19. DECD2	0.405	0.416	0.374	0.424	0.565	1								
20. DECD3	0.442	0.432	0.381	0.445	0.508	0.520	1							
21. NEUT1	-0.290	-0.324	-0.417	-0.286	-0.114	-0.274	-0.178	1						
22. NEUT2	-0.347	-0.397	-0.430	-0.349	-0.083	-0.246	-0.194	0.552	1					
23. NEUT3	-0.440	-0.401	-0.465	-0.403	-0.176	-0.320	-0.359	0.562	0.557	1				
24. NEUT4	-0.393	-0.403	-0.471	-0.449	-0.025	-0.247	-0.211	0.582	0.537	0.552	1			
25. PAIDSTR	-0.178	-0.164	-0.131	-0.100	-0.046	-0.106	-0.082	0.077	0.141	0.180	0.121	1		
26. DMSTORES	-0.074	-0.045	0.007	-0.079	-0.047	-0.139	-0.119	-0.021	0.062	0.090	0.024	0.194	1	
27. DOWNLOAD	-0.429	-0.478	-0.490	-0.445	-0.201	-0.310	-0.364	0.401	0.440	0.436	0.333	0.136	0.134	1

The above matrix presents the sample statistics based on full information maximum likelihood estimation (Mplus output).

*Note: Items 1-24 have a possible value range of 1-5, items 25-26 (PAIDSTR and DMSTORES) 0-1, and item 27 (DOWNLOAD) 1-7.

Appendix C: Model Results for Comparison Models

All standardized results and fit indices are reported for the comparison models described in "Hypothesis tests" section.

TPB ($R^2_{DOWNLOAD}$ = 0.490)

Hypothesis (exp. sign)	Path(s)	β	p	Conclusion
H1a (+)	ATT → INT	0.642	0.000	Supported
H1b (+)	SN → INT	0.179	0.004	Supported
H1c (+)	PBC → INT	–0.060	0.108	Not supported
H2a (+)	INT → DOWNLOAD	0.563	0.000	Supported
H2b (+)	PBC → DOWNLOAD	0.299	0.002	Supported

χ^2 (70) = 160.782 (p = 0.000), RMSEA = 0.066, SRMR = 0.041, CFI = 0.970, TLI = 0.961

TPB + legal alternatives ($R^2_{DOWNLOAD}$ = 0.491)

Hypothesis (exp. sign)	Path(s)	β	p	Conclusion
H1a (+)	ATT → INT	0.647	0.000	Supported
H1b (+)	SN → INT	0.180	0.003	Supported
H1c (+)	PBC → INT	–0.070	0.074	Not supported
H2a (+)	INT → DOWNLOAD	0.565	0.000	Supported
H2b (+)	PBC → DOWNLOAD	0.299	0.002	Supported
H7a (–)	PAIDSTR → INT	–0.049	0.236	Not supported
H7b (–)	DMSTORES → INT	0.073	0.099	Not supported

χ^2 (96) = 198.377 (p = 0.000), RMSEA = 0.060, SRMR = 0.052, CFI = 0.969, TLI = 0.961

D-N ($R^2_{DOWNLOAD}$ = 0.433)

Hypothesis (exp. sign)	Path(s)	β	p	Conclusion
H5 (–)	NEUT → DISS	–0.733	0.000	Supported
H6 (–)	DISS → DOWNLOAD	–0.658	0.000	Supported

χ^2 (51) = 106.149 (p = 0.000), RMSEA = 0.060, SRMR = 0.054, CFI = 0.963, TLI = 0.953

D-N + legal alternatives ($R^2_{DOWNLOAD}$ = 0.439)

Hypothesis (exp. sign)	Path(s)	β	p	Conclusion
H5 (–)	NEUT → DISS	–0.726	0.000	Supported
H6 (–)	DISS → DOWNLOAD	–0.662	0.000	Supported
H8a (+)	PAIDSTR → DISS	–0.071	0.215	Not supported
H8b (+)	DMSTORES → DISS	–0.091	0.118	Not supported

χ^2 (73) = 135.396 (p = 0.000), RMSEA = 0.053, SRMR = 0.058, CFI = 0.961, TLI = 0.952

Alternative DISS → INT model ($R^2_{DOWNLOAD}$ = 0.488)

Hypothesis (exp. sign)	Path(s)	β	p	Conclusion
H1a (+)	ATT → INT	0.838	0.000	Supported
H1b (+)	SN → INT	0.233	0.000	Supported
H1c (+)	PBC → INT	–0.039	0.357	Not supported
H2a (+)	INT → DOWNLOAD	0.562	0.000	Supported
H2b (+)	PBC → DOWNLOAD	0.306	0.001	Supported
H3 (–)	SN → DISS	–0.322	0.000	Supported
H4 (–)	NEUT → DISS	–0.612	0.000	Supported
H5 (–)	DISS → ATT	–0.857	0.000	Supported
* (–)	DISS → INT	0.266	0.071	Not supported
H7a (–)	PAIDSTR → INT	–0.040	0.354	Not supported
H7b (–)	DMSTORES → INT	0.074	0.099	Not supported
H8a (+)	PAIDSTR → DISS	–0.053	0.285	Not supported
H8b (+)	DMSTORES → DISS	–0.013	0.793	Not supported

χ^2 (308) = 578.939 (p = 0.000), RMSEA = 0.054, SRMR = 0.070, CFI = 0.950, TLI = 0.943

* = Altered or added hypotheses (compared to the primary model).

Note: This alternative model is a nested case of a parent model (χ^2 (307) = 548.427, $R^2_{DOWNLOAD}$ = 0.553) that includes both paths DISS → INT and DISS → DOWNLOAD. Comparing these models, the Satorra-Bentler corrected $\Delta\chi^2$ test statistic is highly significant ($\Delta\chi^2$ (1) = 18.266, p < 0.001). Similarly, the primary model is another nested case of the parent model. While the test statistic is marginally significant also in this case ($\Delta\chi^2$ (1) = 4.142, p = 0.042), the primary model performs noticeably better than the alternative model, and explains 0.5% more variance than the parent model.

Alternative decomposed model ($R^2_{DOWNLOAD}$ = 0.503)

Hypothesis (exp. sign)	Path(s)	β	p	Conclusion
H1a (+)	ATT → INT	0.647	0.000	Supported
H1b (+)	SN → INT	0.203	0.001	Supported
H1c (+)	PBC → INT	–0.070	0.079	Not supported
H2a (+)	INT → DOWNLOAD	0.475	0.000	Supported
H2b (+)	PBC → DOWNLOAD	0.212	0.000	Supported
H3* (–)	SN → DECD	–0.200	0.038	Supported
	SN → EMOD	–0.127	0.067	Not supported
H4* (–)	NEUT → DECD	–0.324	0.001	Supported
	NEUT → EMOD	–0.424	0.000	Supported
H5* (–)	DECD → ATT	–0.005	0.956	Not supported
	EMOD → ATT	–0.711	0.000	Supported
* (+)	DECD → EMOD	0.362	0.000	Supported
H6* (–)	DECD → DOWNLOAD	–0.076	0.352	Not supported
	EMOD → DOWNLOAD	–0.180	0.022	Supported
H7a (–)	PAIDSTR → INT	–0.068	0.162	Not supported
H7b (–)	DMSTORES → INT	0.072	0.118	Not supported
H8a* (+)	PAIDSTR → DECD	–0.025	0.696	Not supported
	PAIDSTR → EMOD	–0.068	0.162	Not supported
H8b* (+)	DMSTORES → DECD	–0.129	0.047	Supported
	DMSTORES → EMOD	0.037	0.443	Not supported

χ^2 (303) = 605.200 (p = 0.000), RMSEA = 0.058, SRMR = 0.085, CFI = 0.944, TLI = 0.936

* = Altered or added hypotheses (compared to the primary model).

Note: This alternative model and the primary model are structurally different (i.e. non-nested), and $\Delta\chi^2$ tests are thus not possible. However, the available fit indicators and variance explained are somewhat worse than those of the primary model.

Appendix D: Related Empirical Literature on TPB and Neutralization Theory

Digital piracy studies employing the TRA/TPB framework and its extensions

Study	Focus	Key contributions
Kwong & Lee 2002 [18]	music	*TPB, equity theory, deterrence, and computer deindividuation:* -TPB measures supported -equity perceptions strongly associated with attitudes -deterrence effect of legislation predicts INT and ATT -computer deindividuation moderates SN-INT path
Peace et al. 2003 [19]	software (workplace)	*TPB, expected utility, and deterrence:* -deterrence measures (punishment severity and certainty) predict software piracy attitudes -software cost predicts attitudes -punishment certainty predicts perceived behavioral control
d'Astous et al. 2005 [20]	music	*TPB, past behavior, personal consequences, and ethical predispositions:* -Past behavior has strong effects on music piracy attitudes and intentions
Al-Rafee & Cronan 2006 [105]	digital content	*Piracy attitudinal determinants in the TPB framework:* -happiness and excitement, cognitive beliefs, importance, subjective norms, Machiavellianism, age
Woolley & Eining 2006 [106]	software	*TRA and knowledge of copyright laws:* -students' understanding and knowledge of copyright laws have increased since 1991, but knowledge has not influenced software piracy rates
Cronan & Al-Rafee 2008 [21]	digital content	*TPB, moral obligation, and past behavior:* -when added to the model, past behavior and moral obligation are the strongest predictors of intention
Goles et al. 2008 [107]	software	*Attitudinal determinants in home, work and school settings:* -personal moral obligation and perceived usefulness are significant predictors of attitudes in all settings -past behavior is a significant predictor of intention in all settings
Morton & Koufteros 2008 [22]	music	*TPB and deterrence:* -deterrence measures ineffective in music piracy attitude prediction
Taylor et al. 2009 [41]	music, movie	*Piracy application of Model of Goal-directed Behavior:* -based on TPB, includes desires and anticipated emotions -argues for attitude-based approach to digital piracy

Wang et al. 2009 [78]	music	*TPB, moderated by idolatry:* -intention to pirate does not have influence on the intention to buy music -idolatry moderates the relationship between intention to pirate and intention to buy music: for high idolatry, higher piracy intention results in lower buying intention
Al-Rafee & Rouibah 2010 [108]	digital content	*Experimental treatments to control piracy in Middle East based on TPB (intention): law, religion, and awareness* -religion and awareness treatments contribute to a decline in digital piracy -awareness has higher negative effect on piracy intention
Liao et al. 2010 [109]	software	*TPB and perceived risk components:* -prosecution risk predicts intention -psychological risk predicts attitude
Phau & Ng 2010 [43]	software	*Modified TPB (neutralization statements reflect dimensions of attitude):* -personal factors have significant relationship with attitude towards piracy -attitudes and computer proficiency predict intentions
Wang & McClung 2011 [42]	digital content	*TPB and attitude functional theory (AFT):* -attitudes have utilitarian, value-expressive, and ego-defensive functions -perceived social approval predicts intention *More likely to download illegally:* -those who believed that piracy would help save money and was convenient -those who did not want to be termed as being afraid of risk *Less likely to download illegally:* -those with illegality concerns -those with high moral standards
Yoon 2011 [23]	digital content	*TPB and Hunt-Vitell (H-V) integrated model:* -moral obligation and justice predict subjective norm -perceived benefit, perceived risk, and habit predict attitude -perceived benefit predicts intention
Al-Rafee & Dashti 2012 [25]	digital content	*Extended TPB in two cultures:* -differences in relative strengths of associations *USA:* PBC & MO high, ATT moderate, SN no effect *Middle East:* ATT high, PBC moderate, MO & SN low effect
Nandedkar & Midha 2012 [110]	music	*Modified TRA, perceived risks, facilitating conditions, habit, and optimism bias:* -individuals with optimism bias engage in piracy because they consider themselves to be at lower risk than average
Yoon 2012 [24]	digital content	*TPB and H-V model comparison:* -TPB is the superior model for digital piracy

Wang & McClung 2012 [26]	digital content	*TPB and anticipated emotions, especially guilt:* -anticipated guilt predicts intentions for active pirates -anticipated emotions predict intentions for the whole sample
Phau et al. 2014a [60]	movie	*Modified TPB (SN termed as social habit, PBC as self-efficacy):* -discusses neutralization in relation to subjective norms -affect predicts attitude -attitude does not predict intention -moral judgment predicts attitude, intention and piracy behavior -intention-behavior link is significant but weak
Phau et al. 2014b [61]	movie	*Modified TPB (with neutralization statements reflecting dimensions of attitude):* -facilitating conditions, social factors, collectivism, and personal moral obligation predict attitudes -social factors, collectivism, personal moral obligation, and attitudes predict intentions
Udo et al. 2014 [111]	digital content	*Norm Activation Model and UTAUT integrated, individualist/collectivist cultures (USA/India):* -culture moderates the links between awareness of consequences and personal norms, and social influence and personal norms
Sang et al. 2015 [112]	digital content	*TPB, AFT, level of perception of copyright protection, level of morality, group norm, moral norm:* -value-expressive functions failed to predict intentions -attitude functions differ between cultures *USA:* cost and availability (weak), illegality concerns, afraid of risk *Korea:* cost and availability (strong), illegality concerns, overpriced

Digital piracy studies dealing with neutralizations and rationalizations

Study	Focus	Key contributions
Kwong et al. 2003 [45]	music	*Attitude toward piracy components:* -social cost of piracy, anti-big business attitude, social benefit of dissemination, and ethical belief -some measurement items related to neutralization
Cohn & Vaccaro 2006 [113]	music	Differences exist between cultures and countries in the use of neutralization techniques
Hinduja 2007 [28]	software	*Weak support:* -neutralization weakly related to experience with online software piracy
Higgins et al. 2008 [29]	music	*Longitudinal neutralization-piracy connections:* -level of neutralization predicts future music piracy
Ingram & Hinduja 2008 [30]	music	*Neutralization and piracy do not have a linear association:* -agreement with neutralization primarily associated with medium and moderate music piracy participation
Harris & Dumas 2006 [114]	digital content	Pirates use multiple neutralization techniques to justify the behavior ex ante or rationalize it ex post
Moore & McMullan 2009 [104]	digital content	*Interviews with peer-to-peer users:* -denial of injury, denial of victim and claim of normalcy are the most common neutralization techniques -pirates have no intention to quit
Morris & Higgins 2009 [31]	digital content	*Modest support:* -neutralization has a strong effect on prospective music piracy, but not on video piracy -neutralization predicts self-reported piracy in all three forms (the effect is strongest for music, then video, then software)
Siponen et al. 2012 [32]	software	*Partial support:* -condemnation of condemners and appeal to higher loyalties predict software piracy intentions; other neutralization techniques do not -shame and moral beliefs predict intentions; formal sanctions (punishment severity and certainty) do not
Vida et al. 2012 [33]	digital content	Rationalization mediates the relationship between perceived benefits and piracy intention, but not between perceived risk and intention
Yu 2012 [115]	digital content	Justifying digital piracy at least in part stems from low level of moral judgment; low moral judgment only affects less serious crimes (digital piracy), not more serious crimes

Yu 2013 [116]	digital content	*Culture's effect on neutralization (Asian & American students):* -Asians more likely to justify piracy -Asians do not have lower morality than Americans
Odou & Bonnin 2014 [73]	digital content	Discusses neutralization theory's potential contributions to cognitive dissonance theory *Interviews:* Consumers produce an autonomous discursive set around three strategies: disempowerment as neutralizing, pragmatic neutralization, and ideological neutralization
Riekkinen & Frank 2014 [103]	music	*Interviews with young pirates:* -young pirates acknowledge the ethical and economic problems of music piracy, and justify their piracy with neutralizations -claim of normalcy, denial of victim, and justification by comparison are the most common techniques in the sample
Brunton-Smith & McCarthy 2016 [7]	digital content	*Moderate support:* -neutralization common among pirates, less common among those not involved -low parental support is more predictive of online piracy than neutralization techniques
Kos Koklic et al. 2016 [34]	digital content	Rationalization mediates the effects of moral intensity, susceptibility to interpersonal influence, and past behavior

IV

PIRACY VERSUS NETFLIX: SUBSCRIPTION VIDEO ON DEMAND DISSATISFACTION AS AN ANTECEDENT OF PIRACY

by

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Piracy versus Netflix: Subscription Video on Demand Dissatisfaction as an Antecedent of Piracy

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Abstract

Drawing from cognitive dissonance and neutralization theories, this study seeks to improve the understanding on consumer decision-making between the current legal and illegal video consumption alternatives. We develop and test a research model featuring Subscription Video on Demand (SVOD) satisfaction and various dimensions of SVOD quality as antecedents of video piracy neutralizations and attitudes. Based on results from an online survey among Finnish SVOD users, SVOD satisfaction is primarily determined by content quality, and has a small negative effect on attitude toward piracy through decreased piracy neutralization. However, it appears that current legal services are not seen as true alternatives to illegal sources of video content.

1. Introduction

The rise of Subscription Video on Demand (SVOD) services has shaped the landscape in entertainment and media industries during the 2010's. However, pirates are still well and alive, and continue to affect the businesses. While there are indications of decline in music piracy [1] concurrent with growth and expansion in paid music streaming, the same trend has not been observed in the case of video content. Despite the success of Netflix and others, the rise of SVOD has not managed to thwart online piracy; instead, piracy traffic numbers for movies and series have continued to rise at the same time, with new episodes and seasons of shows such as *Game of Thrones* continually making headlines by breaking previous piracy traffic records.

Online video piracy has many similarities, but also certain differences with music piracy. Both typically take place in peer-to-peer networks and have been subjects to similar campaigns from the rights holders and industry organizations. In the past, Internet connection speeds limited the viability of video piracy, as the pirated video files were either too large or of considerably lower quality than legal copies. Later, with increased connection speeds and storage capacities, video piracy has become practically as convenient as music piracy. However, compared to music, the legal availability of video content is not as broad as it is with music, as SVOD services have selected strategies leaning on exclusive content, opposed to larger and more generic catalogues of music streaming services such as Spotify and Deezer.

Various papers have examined the interplay and consumer decisions between legal and illegal music options [2-5], but recent developments also call for more research on video content from the consumer perspective. The objective of this study is to respond to this need by exploring the antecedents of video piracy, especially those related to perceptions of legal SVOD services. We will address the following question: Do the merits of SVOD services and SVOD satisfaction shape video piracy attitudes and behaviors, and through which mechanisms?

Our research model deals with digital video piracy in a market where legal SVOD options are present. The availability of various legal options with different offers complicates the decisions made by the consumers. Within our example setting of a SVOD market in a Northern European country, we identify unique qualities of digital video consumption, and address them by including contextualized inputs from neutralization theory [6], cognitive dissonance theory [7], and expectation-confirmation theory [8,9].

2. Theoretical background

The general-level reasoned action framework from social psychology (i.e., Theory of Reasoned Action, TRA, Theory of Planned Behavior, TPB, and their further developments) [10-12] has become the most common theoretical approach to individual-level consumer piracy questions within many disciplines. This is also evident from Lowry, Zhang and Wu's meta-analysis of empirical piracy studies [13]. However, in their basic form, TRA and TPB neglect the normative and moral aspects which are crucial to

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this context, and have been consequently extended with constructs such as moral obligation [14], or with broader ethics theories [15].

Many piracy researchers have adopted neutralization theory to provide an alternative viewpoint, but the contributions of cognitive dissonance have been scarcer [16]. These two theories have potential to complement each other in many ways [17,18], so it would be useful to consider their impacts from an integrated perspective. Considering the current SVOD market alternatives to piracy, customer satisfaction perspective is equally important. To this end, we also will utilize inputs from expectation-confirmation research, which is another popular theme within marketing and information systems research that has drawn from cognitive dissonance.

2.1. Neutralization theory in digital piracy research

Neutralization theory (NT) originates from criminology, where it was proposed Sykes and Matza [6] to address juvenile delinquency. The assumption underlying NT is that deep down, the delinquent have the same values as the law-abiding general public. They employ verbal and mental techniques to lessen the guilt associated with societal value and rule violations. These are called neutralization techniques.

In their article, Sykes and Matza distinguished five of these: denial of responsibility, denial of injury, denial of the victim, condemnation of condemners and appeal to higher loyalties. Subsequent research has identified many additional techniques, such as metaphor of the ledger, defense of necessity, and justification by comparison [19]. It is important to note that neutralizations themselves may not necessarily be the root cause of offending, but a mechanism that allows offending to continue. For a more comprehensive look on NT that goes beyond individual technique issues, see Maruna and Copes' [20] review.

The theory has appeared lucrative to many digital piracy researchers, because online pirates are typically viewed as rather normal young individuals who accept general societal values, and thus have greater potential for guilt than hardened career criminals. In criminology literature, e.g., Ingram and Hinduja [21] and Morris and Higgins [22] have employed NT in quantitative studies concerning music and media piracy. There is also some longitudinal evidence that the level of neutralization affects actually occurring music piracy [23]. Within the IS discipline, Siponen, Vance, and Willison [24] found that the techniques condemnation of the condemners and appeal to higher loyalties predict software piracy intentions.

Because of the considerable breadth of current piracy research, applications of NT have suffered from a certain lack of conceptual clarity. It is also of note that some piracy researchers have employed the theory, but have dubbed the construct as "rationalization", [25,26] which has post-behavior connotations, although neutralization was originally perceived as both preceding and following criminal behavior [6]. Unlike cognitive dissonance theory that deals solely with post-behavior reasoning, NT takes a sequential view on deviance: neutralization can be both a cause and an effect of behavior [17].

2.2 Cognitive dissonance and confirmation of expectations

Festinger's [7] theory of cognitive dissonance (CDT) is one of the most influential theories in social psychology [27]. It is based on an everyday observation about humans' dislike toward inconsistency. For example, illegal downloading of copyrighted material creates conflicts with the laws and values of the society, which need to be solved. Here, the cognition of one's online piracy participation and the cognition about the inappropriateness of online piracy are said to be dissonant with each other. When such conflict is recognized, dissonance arousal takes place, and the need reduce dissonance follows. Dissonance reduction can happen by either, 1) changing one of the dissonant elements, such as attitude or behavior, 2) adding consonant cognitions to increase the overall consonance between elements, or 3) decreasing the importance of dissonant elements.

The concept of cognitive dissonance is somewhat deceptively named, because various separate elements of dissonance exist: e.g., Hausknecht et al. [28] discern distinct cognitive, emotional and behavioral components of dissonance. In our case, the cognitive component is the person's recognition that beliefs about piracy are inconsistent with piracy behavior. The emotional component represents dissonance as a psychologically uncomfortable state [28]. Compared to reasoned action studies [14], this concept largely overlaps with moral obligation, which is commonly defined as feelings of guilt.

Sequentially, the cognition about inconsistent beliefs or actions instigates the dissonance process, and psychological discomfort follows. Available dissonance reduction mechanisms are then applied. These represent the third, behavioral dimension of dissonance [28]. In our framework, we equate this element of dissonance with neutralization techniques, because there are notable connections between the theories. In their review of NT, Maruna and Copes [20]

propose that integration with CDT would be "an important starting point" in refining NT. Like NT, CDT predicts that the individual will seek to neutralize the cognition through variety of excuses and justifications, and as in CDT, the primary motivation behind neutralization is establishing internal consistency [20]. Odou and Bonnin [17] describe neutralization as an addition of a discursive space, or an area of tolerance around the norms. Interpreted through the lens of CDT, neutralizations function either by adding consonant elements (such as the technique of "appeal to higher loyalties") or by decreasing the importance of dissonant elements (such as "claim of normalcy") [18].

Expectation-confirmation theory (ECT) [8,29] has found an important position in information systems literature in the IS continuance context. According to Bhattacherjee [9], IS continuance intention is primarily determined by the user's satisfaction with prior IS use. In turn, satisfaction is determined by expectation of the IS and confirmation of expectation following actual use. In the IS continuance model, expectations are represented by a construct drawn from the Technology Acceptance Model (TAM) [30], perceived usefulness (PU), and similarly following TAM, a link is hypothesized between PU and continuance intention. On the grounds of CDT, confirmation has an impact on PU: users' prior usefulness perceptions tend to elevate when they are exceeded and decrease when they are not met, because in order to reduce cognitive dissonance, rational users will modify their usefulness perceptions to be more consistent with reality.

However, we note that TAM and its perceived usefulness construct were created in a general organizational IS use context, and that they do not capture any specific service level issues. Thus, we do not believe that this conceptualization provides sufficient theoretical depth in the case of video streaming. To address this, we first identify the perceived merits, or lack thereof, of SVOD services in the case of an example market of Finland, a Northern European country.

3. Research model

Our research model can be divided into two parts: the first concerns to the facets of perceived SVOD service quality (content, system, and security) as an antecedent of satisfaction, and the other concerns to the effects of satisfaction on perceptions of about piracy options. The theoretical model is presented in Figure 1.

3.1. The SVOD service quality and satisfaction

During the study's time frame, independent "over-the-top" SVOD providers in our example market Finland included the American companies Netflix and HBO (branded HBO Nordic), and the Swedish-owned Viaplay and C More. In addition, the local Internet service providers provided access to broader and more customizable services, which included bundled live IPTV broadcasts from cable channels, movie rentals, services from the aforementioned SVOD providers, and music streaming services.

The purpose of SVOD services is to provide consumers full access to a certain limited catalogue of video content, which includes the same titles for all customers in a given market. Thus, the primary merits of SVOD services are related to content quality. Following Shin [31,32], we also consider other dimensions of perceived quality to be relevant for SVOD services: system quality and security.

Content quality. As the novelty of the narrative is integral to enjoyment, video titles require far more time and attention from consumers, and typically have less replay value in comparison to music. For SVOD services, this emphasizes the constant need for catalogue updates. Compared to music subscription services with tens of millions of titles, SVOD services are noticeably narrow and more exclusive in their scope, because the markets operate with different logics in terms of monetization and intellectual property rights. Production of individual video titles is also far more expensive in comparison to music.

The market leader Netflix has given up many major Hollywood titles and directed its efforts toward exclusive and original productions (e.g., *House of Cards*) not legally available anywhere else. The competitor HBO has a long history with a similar strategy. This trend towards high quality exclusive programming creates a need to subscribe to multiple SVOD services in case the consumer wants access to larger catalogues, and even then, it is very possible that the particular titles sought by the consumers are simply not legally available for streaming for them. Exclusivity is likely to promote piracy, as has also been observed in the music context with piracy numbers of individual exclusive albums [33].

Hypothesis 1a: Perceived SVOD Content Quality positively influences SVOD Satisfaction.

System quality. Even if the content catalogue is of high quality, and the interactions are well designed, the underlying technical-level system quality needs to be in order as well [34]. System quality commonly manifests in such general qualities as accessibility, reliability, and response time [35].

The key qualities of audio-visual content are the qualities of the audio and video streams. To guarantee these, SVOD services generate a large amount of

Internet traffic, and need reasonable connection speeds and computing power to make it possible to stream high definition content uninterrupted, and even more so in the case of more advanced standards of the future. Broad device support is important, because these services are often accessed through different devices, such as desktop and laptop computers, tablets, smartphones, gaming consoles and smart TV systems. Additional technical feature requirements include, e.g., options for subtitles in multiple languages, and a possibility to easily continue watching from the previous point where watching was interrupted.

Hypothesis 1b: Perceived SVOD System Quality positively influences SVOD Satisfaction.

Security. Finally, concerns about security frequently accompany IS use, especially when personal information and payments are involved. SVOD services incur monetary costs, and the accompanying transactions and storage of personal information should be perceived as secure. The study by Shin [32] highlights the effect of perceived security on IPTV usage intention, and we expect that security will also play a role in the rather similar SVOD context.

Hypothesis 1c: Perceived SVOD Security positively influences SVOD Satisfaction.

3.2. Are dissatisfied SVOD customers tempted to turn to piracy?

Empirical evidence supports the oft-repeated notion that lack of good legal services has made consumers turn to illegal alternatives [36]. With Netflix, HBO and others, the consumer has now been presented with legal SVOD options in addition to the previous pirate source options. As time goes on and the consumer accumulates actual use experiences, they will be able to properly review them in terms of their expectations, and considering the incurred costs. If the expectations are met or exceeded, the consumer is likely to be more or less satisfied with the service, and will likely continue its use.

Hypothesis 2: SVOD Satisfaction positively influences SVOD Continuance Intention.

In the case where a consumer selects a product or service out of multiple competing ones, CDT under the "free choice" paradigm [37] points towards immediate post-choice inflation of attitude towards the chosen option, and deflation of attitude towards the unchosen options in an effort to validate the choice. A key proposition derived from the cognitive dissonance and expectation-confirmation theories is thus that satisfied users will decrease their valuation of the illegal piracy option in comparison to legal SVOD option. This translates to more a negative attitude toward piracy (which we considered as a person's overall evaluation of performing piracy). Conversely, dissatisfied users would be likely to view piracy more positively.

The above goes hand in hand with another hypothesis. When SVOD dissatisfaction promotes pro-piracy attitudes, it also leads to a potential violation of the legal and societal norm of anti-piracy. This norm violation can be a cause of dissonance if identified. As a dissonance reduction mechanism, additional modifications to the relevant set of cognitions are needed. The level of agreement with piracy neutralizing sentiments is therefore expected to rise with dissatisfaction, and vice versa.

Hypothesis 3a: SVOD Satisfaction negatively influences Attitude toward Piracy.

Hypothesis 3b: SVOD Satisfaction negatively influences Piracy Neutralization.

As is evident from prior research, neutralizations and attitudes are very closely linked. From early on, attitude change has been considered as a sign of dissonance reduction in the cognitive dissonance literature [27]. As mentioned earlier, as mechanisms of dissonance reduction, neutralization techniques are employed to establish internal consistency [20]. Thus, neutralizations designed to create tolerance around piracy should result in more positive attitudes towards piracy.

Hypothesis 4: Piracy Neutralization positively influences Attitude toward Piracy.

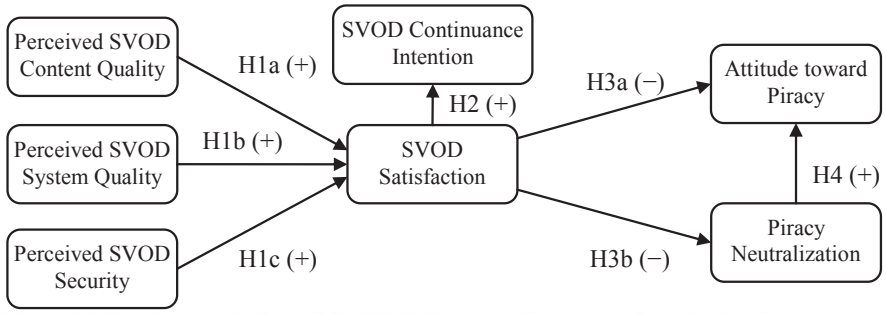

Figure 1. The theoretical model of SVOD perceptions as antecedents of piracy perceptions.

4. Methods and results

We collected data from Finnish SVOD users via a self-administered online survey carried out during winter and spring 2017. For a pilot test, a link to the survey and an introductory promotional message was first posted to select discussion forums of varying audiences, and to a mailing list of one student organization of our university. In the primary study phase, the survey was promoted through our university's mailing lists for students, staff, and faculty, as well as the university website. We also advertised the study in social media outlets such as Facebook and Twitter. In the introductory message, it was mentioned that ten movie tickets would be raffled among the respondent. We received 153 completed responses out of 243 overall.

After dropping out respondents who took the survey but had not used paid SVOD services, we arrived at 124 responses, which we used as our sample to test the model. Out of these, 69 (55.6%) were female, 50 male (40.3%), and the remaining five (4.0%) chose not to disclose or specify their gender. Average and median years of birth were 1986 (i.e., age 30-31 during the data collection) and 1989 (27-28). Students comprised the largest socioeconomic group in the sample (53.2%, 66 respondents), followed by those who classified themselves as employed (38.7%, 46).

The respondents were instructed to answer to all of the SVOD quality, security and satisfaction questions in relation to the service they themselves indicated as their primarily used service. They were instructed to indicate one, even if they had quit SVOD use for the time being. For the large majority of respondents (94), this was Netflix. On average, the respondents claimed to watch 1 hour and 19 minutes of SVOD content per day, from all services combined. Here, 15 respondents provided an answer of zero, indicating that they were at least currently inactive, if had not quit completely.

We employed covariance-based structural equation modelling with Mplus 7.11 software. We applied Anderson and Gerbing's [38] two-step approach. First, we specified a measurement model in the confirmatory factor analysis framework. Then, we specified a structural regression model based on our hypotheses, and followed with further models with different constraints, and compared the models sequentially.

4.1. Variables

The measured used in this study were presented in two different pages of the online survey, the first regarding SVOD service use and perceptions, and the second regarding piracy perceptions. Item order within question blocks was randomized for each respondent in an attempt to reduce the potential method biases arising automatic responding, and from the tendency to interpret similar items as identical. Some reverse-coded items were also included for control purposes. Whenever we detected that the questions could be difficult to understand, we included clarifications and cues alongside the question.

For most of our constructs, we used five-point Likert-style items anchored "1 = fully disagree" and "5 = fully agree", with an extra option for "don't know / cannot say". The exception was *Attitude toward Piracy (ATT)*, which we measured with four five-point semantic differential adjective pairs, such as *good-bad,* in the style of Fishbein and Ajzen [12].

For *Piracy neutralization (NEUT)*, we employed a 10-item scale consisting of items drawn from prior neutralization literature [18,24,39,40] - again rewording to them to refer to relevant aspects to video piracy instead of those of their original scope.

SVOD Continuance Intention (CIN) was derived from intention measures commonly used in TRA and TPB questionnaires [12], and were worded in terms of continuing to use SVOD services for the next two months (e.g., "I intend to continue using the SVOD service for the next two months").

Our *SVOD Satisfaction (SAT)* scale was derived from Bhattacherjee [9], and consisted of three items worded "I am very satisfied / pleased / delighted with the VOD service" (we constantly referred to the acronym 'VOD' in our items, because we expected it to be widely known among the target audience; we also specified that we meant paid services and provided examples). The difference was, however, that we used five-point Likert-style items instead of the semantic differential scale.

For *Perceived SVOD Content Quality (CQ),* we drew two of our items from Shin [31], and reworded them to better reflect SVOD context: "The content I can get from the SVOD service is valuable", and "The SVOD service provides content I want". To supplement our measurement, we generated three original items designed to capture features specific to SVOD service content catalogues relation to their enjoyableness, interestingness, and freshness, and included these in the survey alongside other items.

For *Perceived SVOD System Quality (SQ),* we used the three "perceived system quality" items from [31], which constitute the effectively identical scale dubbed as "perceived quality of service" in [32]. Again, we supplemented the scale with four original items designed to capture important SVOD features such as picture quality, sound quality, playback smoothness, and device support.

Finally, for *Perceived SVOD Security (SE),* we used the three-item measure from [32].

As our sample included individuals with varying piracy backgrounds, we used the dummy of "currently active piracy" (ACPIR; 1 = active, 0 = not active) as a control variable. This dummy variable was created from respondents' answers' to questions about had they ever downloaded or streamed videos illegally, and if yes, currently how frequently. We believed this to be appropriate, because attachment to piracy will shape how piracy is perceived. Past piracy is also a potent predictor of future piracy behavior [13,14]. Out of our current SVOD user sample, 44% indicated themselves as active pirates.

The full list of items and their correlation matrix are omitted here to save space, but are available upon request from the authors.

4.2. Measurement model

First, we explored our measurement items by examining their correlation matrix for unusual correlations. We identified SAT3 correlating more strongly with measures of CIN than those of SAT, and decided to drop the item as unrepresentative of the SAT construct. We also eliminated one security item (SE3) based on large amount of missing values - indicating that the item was difficult to understand - before proceeding with the analysis. Both of the above cases could be explained by slight connotative differences introduced when translating items from English to Finnish.

Based on these scales, we specified an initial measurement model, where the factors are allowed to correlate with each other (confirmatory factor analysis, CFA). As with all subsequent models, we estimated this model using robust maximum likelihood (MLR), and handled missing data with the default Mplus option, full information maximum likelihood (FIML). The initial model had insufficient fit with the data, χ^2 = 802.674 (500), p = 0.000, CFI = 0.871. As our sample size (n=124) was rather small, and many of our scales rather long at 5-10 items each, we proceeded to eliminate items with weaker loadings to their intended constructs in an effort to find a more parsimonious and better-fitting model. Out of the 10-item neutralization scale, we selected five items bases on loadings while still aiming to capture multiple techniques of neutralization in the scale.

The purged CFA model (which we designated as Model 1) fit the data better: χ^2 = 314.784 (225), p = 0.000, CFI = 0.946, RMSEA = 0.057, SRMR = 0.062. Composite reliability coefficients ranged from 0.722 to 0.987. All the constructs met Fornell and Larcker's [41] convergent validity criteria, average variance explained (AVE) exceeding 0.50, and the discriminant validity criteria, the square root of AVE's for each construct exceeding the correlations with the other constructs in the model (Table 1). Thus, we deemed the model satisfactory in terms of both convergent and discriminant validity.

In addition to taking a priori procedural steps to minimize potential common method bias, we also undertook Harman's single-factor test, and found that 31.1% of variance was captured by a single factor in an exploratory factor analysis. Despite this test is often considered to be insensitive [42], a recent simulation study found that with typical scale reliabilities, the test fails to detect upward CMB in causal relationships only when common method variance approaches 70% or more [43]. This magnitude is very unlikely to be found in typical surveys, and would likely also manifest as other serious problems with construct validity [43].

Table 1. Latent construct correlations (Model 1). On-diagonal values (in bold) are square roots of AVE. CR = composite reliability, AVE = average variance extracted. Note: ACPIR is a single-item measure.

Construct (# of items)	**CR**	**AVE**	**CQ**	**SQ**	**SE**	**SAT**	**CIN**	**ATT**	**NEUT**	**ACPIR**
CQ (3)	*0.817*	*0.603*	**0.777**							
SQ (4)	*0.854*	*0.597*	0.476	**0.773**						
SE (2)	*0.722*	*0.566*	0.340	0.706	**0.752**					
SAT (2)	*0.764*	*0.618*	0.741	0.738	0.606	**0.786**				
CIN (3)	*0.987*	*0.961*	0.396	0.347	0.324	0.519	**0.980**			
ATT (4)	*0.927*	*0.761*	−0.073	−0.160	−0.111	0.093	−0.171	**0.872**		
NEUT (5)	*0.858*	*0.551*	−0.279	−0.197	−0.372	-0.057	−0.283	0.519	**0.742**	
ACPIR (1)	*1.000*	*1.000*	0.066	0.021	0.055	0.231	0.036	0.340	0.328	**1.000**

4.3. Structural model

For our theoretical structural model (Model 2), we replaced the correlations between factors with directed paths based on our hypotheses. The dummy variable of active piracy participation was included as a control for each dependent variable. The exogenous variables SF, SQ, SE, and ACPIR were still allowed to correlate with each other, as well as the error terms of otherwise unrelated ultimate outcome variables ATT and CIN. The theoretical model had a reasonable fit with the data, χ^2 = 334.792 (235), p = 0.000, CFI = 0.940, RMSEA = 0.059, SRMR 0.073.

As Anderson & Gerbing [38] recommend, one should compare the theoretical model to two other models: the next-best-constrained (Model 3) and the next-best-unconstrained (Model 4) models. For the next-best-constrained model, we constrained the hypothesized path from SAT to ATT to zero, because the consumers may not associate legal and illegal forms of video content consumption with each other as equal alternatives. We also uncorrelated the error terms of ATT and CIN. For the next-best-unconstrained model, we added two paths from CIN to ATT and NEUT to check if the effects of SVOD satisfaction on these antecedents of piracy are mediated by the intention to continue using SVOD.

First, we proceeded to compare the theoretical model (Model 2) to the next-best-constrained model (Model 3). Because the models were estimated with the MLR estimator, we employed Satorra and Bentlers' [44] correction formula for χ^2 difference tests. In this comparison, Model 3 gained two degrees of freedom with the change of 0.581 in χ^2, a statistically nonsignificant increase (p = 0.748). Thus we preferred Model 3. We then went on to compare Model 3 to Model 4. With a loss of three degrees of freedom, χ^2 changed by a statistically nonsignificant −2.580 (p = 0.461). Thus, we still preferred Model 3.

Based on modification indices, we included the theoretically plausible correlation between the error terms of the same construct's indicators: ATT4 and ATT2 (M.I. = 39.489). With this addition, we arrived at our best model (Model 5: χ^2 = 299.120 (236), p = 0.003, CFI = 0.962, RMSEA = 0.046, SRMR = 0.075; vs Model 3: $\Delta\chi^2$ = −136.424, Δdf = −1, p = 0.000. Further, we diagnosed the standardized residuals for the best model, and found that the largest sources of remaining misfit between the data and the model were the residual correlations of SAT2 with NEUT9 (4.291) and SQ3 with NEUT6 (4.267). In total, 25 out of 300 standardized residuals had absolute values over 1.96.

4.4. Hypothesis test results

Regarding hypotheses, the results of our theoretical and best models were very similar (Table 2), indicating that the results were robust. The following numbers are based on the best model.

Hypotheses 1a, 1b, and 1c predicted that perceived content quality, perceived system quality and perceived security would positively affect SVOD satisfaction. For 1a (perceived content quality), this was supported, β = 0.513, p = 0.000. Hypotheses 1b (perceived system quality: β = 0.349, p = 0.129) and 1c (perceived security: β = 0.200, p = 0.311) were not supported. This confirmed our expectation that contents are the most important factor for SVOD services, while system quality and security are secondary.

Hypothesis 2 predicted that SVOD satisfaction would lead to higher intention to continue using the SVOD service. The hypothesis was clearly supported, β = 0.520, p = 0.000.

Hypothesis 3a predicted that SVOD satisfaction would decrease the attitudes toward piracy. As our theoretical model results indicated that this effect was practically zero (β = 0.032, p = 0.809), we omitted the path from our best model. Thus, the hypothesis was not supported. The related Hypothesis 3b predicted that SVOD satisfaction would be negatively associated with piracy neutralization. The parameter estimate was negative and statistically significant at β = −0.274, p = 0.043. Thus, the hypothesis was supported.

Hypothesis 4 predicted that piracy neutralization would lead to a more positive attitude toward piracy. This hypothesis was clearly supported, β = 0.498, p = 0.000. Along with ACPIR, neutralization accounted for 35% of variance in ATT. Finally, the indirect effect of SVOD satisfaction on attitude toward piracy through piracy neutralization (H3b * H4) was quite weak at β = −0.136, p = 0.038.

Table 2. Theoretical and Best model results. *** p < 0.001, ** p < 0.01, * p < 0.05, † p < 0.10.

	Standardized Model Estimates (S.E.)		
	Model 2 - Theoretical	Model 5 - Best	Conclusions / Explanations
CQ → SAT (H1a +)	0.514 (0.140)***	0.513 (0.140)***	Hypothesis supported
SQ → SAT (H1b +)	0.343 (0.234)	0.349 (0.230)	Hypothesis not supported
SE → SAT (H1c +)	0.203 (0.199)	0.200 (0.197)	Hypothesis not supported
SAT → CIN (H2 +)	0.536 (0.075)***	0.536 (0.074)***	Hypothesis supported
SAT → ATT (H3a −)	0.032 (0.134)	0 (fixed)	Hypothesis not supported

SAT → NEUT (H3b −)	−0.277 (0.139)*	−0.274 (0.135)*	Hypothesis supported
NEUT → ATT (H4 +)	0.460 (0.122)***	0.498 (0.112)***	Hypothesis supported
ACPIR → SAT	0.179 (0.077)*	0.179 (0.077)*	Control variable paths
ACPIR → CIN	−0.086 (0.090)	−0.087 (0.090)	
ACPIR → NEUT	0.384 (0.094)***	0.386 (0.094)***	
ACPIR → ATT	0.186 (0.098)†	0.194 (0.096)*	
SQ corr CQ	0.474 (0.118)***	0.474 (0.118)***	Correlations between exogenous variables
SE corr CQ	0.340 (0.117)**	0.340 (0.117)**	
SE corr SQ	0.697 (0.085)***	0.698 (0.085)***	
ACPIR corr CQ	0.066 (0.109)	0.066 (0.109)	
ACPIR corr SQ	0.019 (0.101)	0.019 (0.101)	
ACPIR corr SE	0.058 (0.108)	0.058 (0.108)	
E(ATT4) corr E(ATT2)	0 (fixed)	0.614 (0.153)***	Correlations between error terms
E(ATT) corr E(CIN)	−0.102 (0.116)	0 (fixed)	
R^2 SAT	0.807 (0.089)***	0.812 (0.088)***	Share of variance explained
R^2 CIN	0.273 (0.078)***	0.273 (0.077)***	
R^2 NEUT	0.175 (0.072)*	0.175 (0.071)*	
R^2 ATT	0.299 (0.102)**	0.348 (0.099)***	

5. Discussion

While our current research model did not include measured future behavioral outcomes, especially attitude toward behavior (as in an overall evaluation of performing the behavior) is known as a strong predictor of behavior within various rationality-based theories. In piracy studies employing TPB, attitude is typically the strongest predictor of intention. Neutralization is variedly proposed as influencing either intentions [24], behaviors [23,45], or as a mediator for other factors such as perceived risks and benefits [25] and moral intensity [26]. In this study, we positioned piracy neutralization as an antecedent of attitude toward piracy, because it represents the dissonance reduction phase in the cognitive dissonance sequence. Dissonance reduction efforts will always result in an altered set of cognitions, and attitudes toward piracy are less resistant to change than behaviors.

In summary, four of our seven study hypotheses were supported. First, regarding the nature of the SVOD services themselves, perceived content quality is the main driver of SVOD satisfaction (H1a), and that SVOD satisfaction is positively related to intention to continue using SVOD services (H2). Second, the general CDT-derived connection held: piracy neutralization and attitude toward piracy are clearly linked (H4). However, the results indicated only a rather modest link between SVOD perceptions and piracy perceptions through neutralization (H3b).

5.1. Theoretical implications

Based on CDT, we predicted that satisfaction with SVOD services would be negatively associated with attitudes toward piracy and lessen the propensity to neutralize, or to agree with neutralizing sentiments. The findings regarding these hypotheses were that SVOD satisfaction had no direct effect on attitude toward piracy, and a small-to-medium effect on piracy neutralization. In other words, the effects of SVOD satisfaction on attitude toward piracy are mediated by dissonance reduction processes.

While both legal and illegal entertainment sources provide similar content, there are key differences in terms of scale and timing of releases. SVOD services cannot offer the same new movies as soon as they hit theatres or even when they are released as Blu-ray, but come with exclusive content, especially in the serial production form, but also increasingly in the movie form. The exclusivity is of course limited to legal services; the content can be acquired through pirate channels very quickly after release, or sometimes before that. Pirate channels will always remain more flexible than a single SVOD service.

We must remember that our SVOD-related questions were framed in terms of a single primarily used service that the users indicated themselves. It is possible that the consumers in our sample did not expect a single SVOD service to be an alternative to piracy, but a legal complement with limited offerings. In this case, the issue might not come down to a choice between SVOD and piracy, but to separate continuance decisions for various SVOD services (and for piracy), each judged based on whether they contribute enough to the current needs and wants for new content. If the consumer is used to pirate content but would prefer a legal alternative if provided, an individual SVOD

service may be evaluated based on how well the service replaces piracy needs. Still, piracy will remain as an option for accessing content not provided by the SVOD service. If SVOD and piracy are not perceived to be true alternatives in this sense, CDT will not apply in the free choice terms, and perceived SVOD qualities and satisfaction could remain only weakly related to piracy perceptions.

5.2. Practical implications

In practice, this study raises doubts about suggestions that pirates could be effectively turned away from their practices by solely improving legal services. Enforcing previously identified important predictive factors such as perceived risks and sanctions [13] should still remain as a part of an effective anti-piracy strategy. Between digital video rentals, download stores, and SVOD, legal consumption alternatives are already very broad, but the individual services do not sport very inclusive catalogues. In the current media landscape, all-encompassing individual services seem unrealistic. To minimize the need for pirate channels, subscription fees should be kept as low that they allow for subscription of multiple services.

Other targets to combat against are the neutralizations employed to create tolerance around piracy. The applicability of neutralizations continues to develop with the surrounding perceptions about reality: when neutralizations are successfully discredited, they lose their effectiveness. An example of a nowadays increasingly discredited, but still situationally applicable neutralization is the argument that “there are no legal alternatives to watch it, so I pirated it”. If neutralizations are based on objectively false facts (“*All artists* are rich, thus piracy doesn’t hurt them”), they should not persist for long, if they are properly addressed. But, if the neutralizing argument is based on a perceived true problem faced by consumers (e.g., in the past, the notoriously restricted music playback possibilities due to DRM), not much can be done, except to attempt to solve the problem to benefit both consumers and businesses.

5.3. Limitations and further research

The data for this study was drawn from an online-collected cross-sectional sample, which limits our inferences about causality. This design is also subject to threats from self-selection and method biases. While we took a priori steps to minimize CMB, and the post-hoc test results were favorable in light of the recent knowledge [43], we remain cautious and acknowledge that we cannot entirely rule out CMB, because its sources are diverse and complex [46].

One could argue that the price of subscription - which was not included in the model - would affect SVOD satisfaction. As the study excluded the more expensive sports subscriptions, the options were quite evenly priced at €8-12 /month; price itself would not have differentiated much. However, price perceptions could have additional effects on satisfaction.

Our population of interest, previous and current SVOD users, also constitutes a limitation. Looking at sample mean values, satisfaction and continuance intention scores were high, attitudes toward piracy markedly negative, and the tendency for piracy neutralization low to moderate. We cannot generalize these results to the current non-adopters of SVOD services. As a major difference, their SVOD perceptions would be based only on prior expectations, with no confirmatory experiences underlying assessments of quality and satisfaction. The potential connections between the SVOD non-adopters’ perceptions about SVOD services and their piracy perceptions remain a topic for further research.

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