Online Piracy and Consumer Affect

To pay or not to pay

Master Thesis Psychology: Consumer Behavior

Matthias W. Kampmann

Universiteit Twente
de ondernemende universiteit

Running head: ONLINE PIRACY AND CONSUMER AFFECT

Online Piracy and Consumer Affect: To pay or not to pay

Matthias W. Kampmann

University of Twente

Master Thesis Psychology: Consumer Behavior

Instructors: Dr. M. Galetzka & Dr. P.W. de Vries

June 2010

Abstract

Online music piracy is a growing problem for the economy. Yet research on the underlying processes that govern online music piracy behavior is limited. This study addresses this shortcoming by combining insights from research on appraisal theory and consumer reactance into a conceptual framework. The results of an online survey study with $N = 160$ participants indicate that a price increase that leads to more profits for the music industry instead of more profits for young artists is seen as less fair and music files are perceived to have less value. Price affect could however not be confirmed as a significant predictor of consumer behavior. Ethical beliefs did not moderate the appraisal process but they have a strong negative influence on online piracy behavior. An adjusted model explains 35% of variance in the online piracy intention measure. Theoretical and managerial implications and possibilities for future research are discussed.

Online Piracy and Consumer Affect: To pay or not to pay

Digital piracy has been a byproduct of the digitalized world since the early days of personal computers (Gopal, Sanders, Bhattacharjee, Agrawal, & Wagner, 2004). With the rise of the internet digital piracy has shifted from illegal copies of physical goods like floppy disks, CDs or DVDs towards the theft of intangible goods like music files, video files and computer software (Wall, 2005). Downloading copyright protected material from the internet offers a sense of anonymity and makes the act of theft seemingly victimless, thereby increasing internet piracy worldwide (Higgins, Wolfe, & Ricketts, 2009). Annual economic losses are estimated to be around $12.5 billion for digital music piracy in the United States alone (Siwek, 2007).

Fighting internet piracy by means of punishment or reeducation has shown to be largely ineffective (Higgins et al., 2009) and has the potential to backfire on the industry (Bhattachajree, Gopal, Lertwachara, & Marsden, 2006). Furthermore it is still unclear how shifts in prices increase or decrease the overall profit for the music industry and how they influences internet piracy behavior. In 2003 the Universal Music Group lowered sales prices for compact discs to increase their record sales. As the people who bought CDs and those who downloaded music online were two very different groups (CD buyers being mostly above the age of 35 and willing and able to pay for music) the intervention was ineffective and prices were raised again (Simon, Bilstein, & Luby, 2006). In 2009 Apple introduced variable pricing in iTunes, raising the price of popular songs from 99 cent to $1.29 (Stone, 2009). At the same time they removed DRM (Digital Rights Management) and thereby allowed users to freely copy their music files. As a result unit sales went down but the overall profit for Apple increased in the following months, while the intervention had no noticeable impact on internet piracy (Peoples, 2009).

These two examples show that it is still unclear which factor influence internet piracy behavior and which pricing strategies should be applied to entice more internet pirates to legally buy music. The majority of research on the topic is focused on demographic factors of digital pirates, who tend to be male, young and tech-savvy (Hinduja, 2003; Kwong, Yau, Lee, Sin, & Tse, 2003), or on personality factors such as low self-control and deviant behavior (e.g. Higgins et al., 2009). Miyazaki, Rodriguez and Langenderfer (2009) found that factors such as high prices, low income and government restrictions enhance internet piracy behavior. As consumers want to consume more rather than less (Peine, Heitmann, & Herrmann, 2009) these consumption constrains can trigger psychological reactance (Brehm & Brehm, 1981). In psychological reactance theory restricting the access to a wanted object will lead to negative thoughts and cognitions (Rains & Turner, 2007) thereby increasing a person's desire to possess said object and to look for alternative ways to obtain it. A similar process was suggested in research on price fairness perceptions where the feeling to be treated unfairly can evoke rage and anger which leads to deviant behavior such as internet piracy (Xia, Monroe, & Cox, 2004).

Affective reactions towards a product price have however been widely neglected in the field and most research was focused on cognitive factors such as price knowledge, value for money judgments and price fairness perceptions (Hoch & Loewenstein, 1991; Loewenstein 1996; Peine et al., 2009; Shiv & Fedorikhin, 1999). O'Neill and Lambert (2001) pointed out that price affect may play an important role in consumer price perceptions. Peine, Heitmann and Herrmann (2009) expanded the view and proposed a conceptual model that integrates price affect as well as price cognitions on the basis of appraisal theory (Frijda, Kuipers & ter Schure, 1989; Lazarus, 1991). These studies did however not specify how consumer affect might be related to deviant behavior such as internet piracy.

Research goals

The goal of the present study is to get a better understanding of how the combined effects of price cognitions and price affect influence internet piracy behavior and how this process is related to consumer reactance. This serves two purposes:

Firstly the results of this study will have direct implications for the online music marketplace. Online piracy is a growing economic problem for the music industry. However current interventions to fight online piracy by means of anti piracy laws and stronger punishment have not resulted in a substantial decrease in online piracy behavior. Understanding the underlying processes that govern consumer decisions to pirate or not to pirate will help to formulate more effective interventions. Interventions only aiming at consumer cognitions have proven to be inefficient at best and to create a backlash on the industry at worst (Bhattachajree et al., 2006). This study also has implications for pricing strategies by showing how the distribution of profits influences internet piracy intention. This will give insight into under which conditions price increases can harm or benefit overall profits.

Secondly this study serves a more theoretical purpose. Using appraisal theory to get a better understanding of how behavioral pricing works has only recently received attention in the field and it still has to be tested over a wider variety of contexts, as has been advised by Peine et al. (2009). This study is designed to help and broaden the view by exploring if and how price cognitions mediate the effect of consumption constraints on price affect and how the effect of price cognitions on pirating behavior is mediated by price affect. As research on perceived price fairness (e.g. Bolton, Warlop, & Alba, 2003; Forehand & Grier, 2003) does suggest that the distribution of profits is important to the customer this study will investigate how sensitive the cognitive-affective price evaluation process is to this factor. Ethical beliefs and trait reactance have shown to be of importance in research on online music piracy (Coyle,

Gould, Gupta, & Gupta, 2009; Miyazaki et al.,2009) and will be taken into consideration to get a better understanding of the cognitive-affective price appraisal framework and the psychological reactance process.

Theoretical background

The conceptual framework developed by Peine et al. (2009) integrates consumer cognitions and affect based on the proposals of appraisal theory. Peine et al. (2009) suggested a three step process of price appraisal. Firstly the price is perceived and price cognitions are triggered (perception stage). Secondly negative and positive price affect follow price cognitions (appraisal stage). Thirdly cognitions and affect are translated into consumer behavior (coping stage).

In the appraisal stage an event is at first evaluated in terms of its relevance. An event will only arouse positive and negative affective reactions if it is in line or in conflict with the individual's personal concerns. If the outcome of an event is not important to the individual, no affective responses are triggered. In a second step the event is evaluated in terms of its goal congruency (good or bad appraisal). An event that is appraised as goal congruent will evoke more positive affect and less negative affect, while an event that is appraised as goal incongruent will evoke more negative affect and less positive affect (Lazarus, 1991). As higher monetary sacrifice is known to cause negative cognitions and affect (Xia et al., 2004) a price increase can be seen as goal incongruent (higher monetary sacrifice) while a price decrease can be seen as goal congruent (lower monetary sacrifice). Peine et al. (2009) concluded that price affect plays an important role in price evaluations and that the role of price cognitions might be overestimated when conceptual models do not account for the effects of affective reactions.

In contrast to appraisal theory, research on psychological reactance does not deliberately specify the underlying processes and it was stated that reactance cannot be measured (Brehm et al., 1981). The most specific definition of psychological reactance is: "[...] the motivational state that is hypothesized to occur when a freedom is eliminated or threatened with elimination" (Brehm & Brehm, 1981, p. 37). As concepts and processes that cannot be measured are difficult to falsify, a number of attempts have been made to overcome this shortcoming. One view is that psychological reactance is a purely cognitive process that can be assessed with self-report measures of counterarguments (e.g. Petty & Cacioppo, 1979). A second theory describes psychological reactance as a state that can be assessed by measuring hostile emotions such as irritation and anger. Thirdly it was proposed that psychological reactance consists of both affect and cognitions that work independently (Dillard & Shen, 2005). However, most recent research does suggest that psychological reactance is best understood as an intertwined process of affect and cognitions that cannot be further disentangled (Dillard & Shen, 2005; Rains & Turner, 2007). The common basic assumption of all four views is that reactance is caused by some sort of barrier that limits the individual's freedom of choice. This barrier, or consumption constraint, can either be limited product availability, difficulties to obtain the object, limited or restricted access to the product or lack of resources (physical or cognitive) to obtain the desired object (Miyazaki et al., 2009). High prices are a very common consumption constraint and research on price affect supports the notion that price shifts lead to emotions such as joy or anger (Peine et al., 2009).

Recently a study by Sinha, Machado and Sellman (in press) supported the notion that high prices act as consumption constraints that can trigger psychological reactance. The study showed that DRM and high prices limited the consumers' freedom of choice which had a negative impact on consumers' willingness to pay. Lowering consumption constraints by removing DRM restrictions and by significantly dropping the price per song led to higher

estimated revenues. Another study by Iyengar (2010) supported these findings and concluded that the optimal pricing for music files to maximize revenues would not be 99 cent but closer to 60 cent per song. According to Iyengar (2010) this would not only enhance the profitability of online music stores but would also entice online pirates to legally download songs.

While psychological reactance theory gained support in the field the example of increased iTunes prices (Stone, 2009) has shown that increased prices alone don't always trigger consumer reactance. Consumer reactance research makes no assumptions about the effect of price justifications and how the communication of a price increase may inhibit reactance responses. Originating from advertisement research, the concept of consumer skepticism (Ford, Smith, & Swasy, 1990; Obermiller, & Spangenberg, 1998) offers a way to explain the situational dependence of consumer reactance, while also integrating findings from research on price fairness perceptions (Koslow, 2000). Research on consumer skepticism has shown that a higher price can be evaluated differently depending on how it is explained to the customer (Bolton et al. 2003; Forehand & Grier, 2003). Bolton et al. (2003) found that consumers often have inappropriate beliefs about how the marketplace works. This often leads to high levels of skepticism even when it is not warranted. As an example, consumers tend to overestimate the profit generated by a company, while underestimating the costs. This effect can be mitigated to an extent by explicitly stating the motives and necessity behind a price increase (Lin, 2008). Consumers tend to react more skeptical if they have the impression that companies are deceptive about their motives or just want to increase their own profits without a gain for the customer. This is in line with research on price fairness perceptions where distributive justice, trust and easily understandable product pricing work together to create the perception of price fairness or unfairness (Bechwati, Sisodia, & Sheth, 2009; Campbell, 1999; Xia et al., 2004). Truthfully acknowledging firm-serving motivations (raised prices to increase profit) instead of trying to deceive the customer (price increase

blamed on external factors only) has the potential to reduce the effects of consumer skepticism (Forehand et al., 2003). The research by Bolton et al. and Forehand et al. broadened the view on consumer skepticism by shifting the focus from skepticism towards advertising to a more generalized application in the marketplace.

Koslow (2000) linked consumer skepticism to psychological reactance by using the concept of defensive motivation (Kunda, 1990). People who are motivated to take a defensive stance towards a topic are looking for evidence that confirms their skeptical assumptions. If they feel that market conditions are threatening their freedom of choice, be it by using persuasive advertising or by price increases that are regarded as unfair, psychological reactance is triggered. This is a very similar process to the proposals of appraisal theory (Lazarus, 1991) and reactions towards perceived price unfairness (Campbell, 1999; Xia et al., 2004). As the concept of consumer affect has only recently received more attention in the field it was not yet integrated into the research on consumer skepticism.

Taken together there is still a lack of research on reactance processes and consumer affect, but the insights from a variety of fields do suggest that the consumer appraisal framework by Peine et al. (2009) is a good basis for exploring the research questions at hand.

H1: Consumption constraints are positively related to negative price affect.

H2: Consumption constraints are negatively related to positive price affect.

Appraisal theory does suggest a strong link between emotions and behavior (Frijda et al., 1989). Favorable evaluations lead to approach behavior (purchase of a product) while negative evaluations lead to avoidance. In absence of direct market data consumer intention is one of the best predictors of consumer behavior.

H3: Negative price affect is positively related to online piracy intention.

H4: Positive price affect is negatively related to online piracy intention.

In appraisal theory not the event itself gives rise to an affective response, but the cognitive appraisal of said event triggers the affective response. Likewise cognitions are theorized to exert their influence on behavior (or behavioral intentions) only through affect (Lazarus, 1991). Perceived price fairness is a relatively well studied example of price cognitions and has been shown to exert a significant effect on consumer behavior (e.g. Xia et al., 2004). Sinha et al. (in press) argued that consumer reactance is also more likely to occur when an imposed restriction is seen as unfair, supporting the notion that perceived fairness plays an important role in explaining psychological reactance.

H5: The effect of consumption constraints on negative and positive price affect will be mediated by perceived fairness.

H6: The effect of perceived fairness on pirating intention will be mediated by negative and positive price affect.

Peine et al. (2009) argued that perceived value should be an indicator of price cognitions as it requires the consumer to make a price-quality-tradeoff. Research on perceived value has shown that perceived value is a multi-factorial concept consisting of quality, emotional, price and social judgments (Sweeney & Soutar, 2001). From a theoretical as well as from a practical point of view it is necessary to define which factors of perceived value are integrated into the model. For this study perceived price value is the indicator of interest. In line with hypotheses 5 and 6 the following hypotheses are formulated:

H7: The effect of consumption constraints on negative and positive price affect will be mediated by perceived value.

H8: The effect of perceived value on pirating intention will be mediated by negative and positive price affect.

In psychological reactance literature factors such as ethical beliefs and trait reactance play an important role in moderating the effect of perceived consumption constraints on attitude

and behavior (Miyazaki et al., 2009). These individual difference factors play no role in appraisal theory, as appraisal theory is more concerned with modeling the evaluation process that is theorized to work the same way for all individuals. Not integrating these factors into the model would however severely limit the insight into the consumer reactance process. Studies on psychological reactance only claim that trait reactance (Dillard et al., 2005) and ethical beliefs (Cronan & Al-Rafee, 2007) respectively enhance or diminish psychological reactance.

Research on the topic of ethical beliefs shows that individuals with a positive attitude towards piracy are more likely to conduct piracy behavior. On the other hand people who believe that piracy is unethical and who feel guilty for this behavior are less likely to conduct piracy (Coyle et al., 2009; Miyazaki et al., 2009). These findings do suggest that ethical beliefs are directly linked to behavioral intention and actual behavior. Miyazaki et al. (2009) do propose that strong ethical beliefs against piracy make it harder for the individual to overcome the perceived consumption constraints. As a consumption constraint is not directly linked to actual behavior in appraisal theory, ethical beliefs can only moderate the effect of the affective and cognitive reactance process on behavior.

Findings on the topic of trait reactance do suggest a similar moderating effect. Individuals differ in their reactions towards perceived consumption constraints. While some people react relatively mildly, or not at all, others have the tendency to react strongly to events that limit their freedom. This individual characteristic has been conceptualized as trait psychological reactance (TPR) (Hong & Faedda, 1996; Hong & Page, 1989; Jonason, 2007). Individuals high in TPR can thus be expected to be more inclined to overcome consumption constraints by using internet piracy compared to individuals low in TPR.

As the scarcity of research on these moderating factors does not allow for specific claims on how they influence the evaluation process, this part of the research will be partly of explorative nature. Until further examination the following hypotheses are formulated:

H9: Trait psychological reactance is a moderating factor in the cognitive-affective appraisal process.

H10: Ethical beliefs are a moderating factor in the cognitive-affective appraisal process.

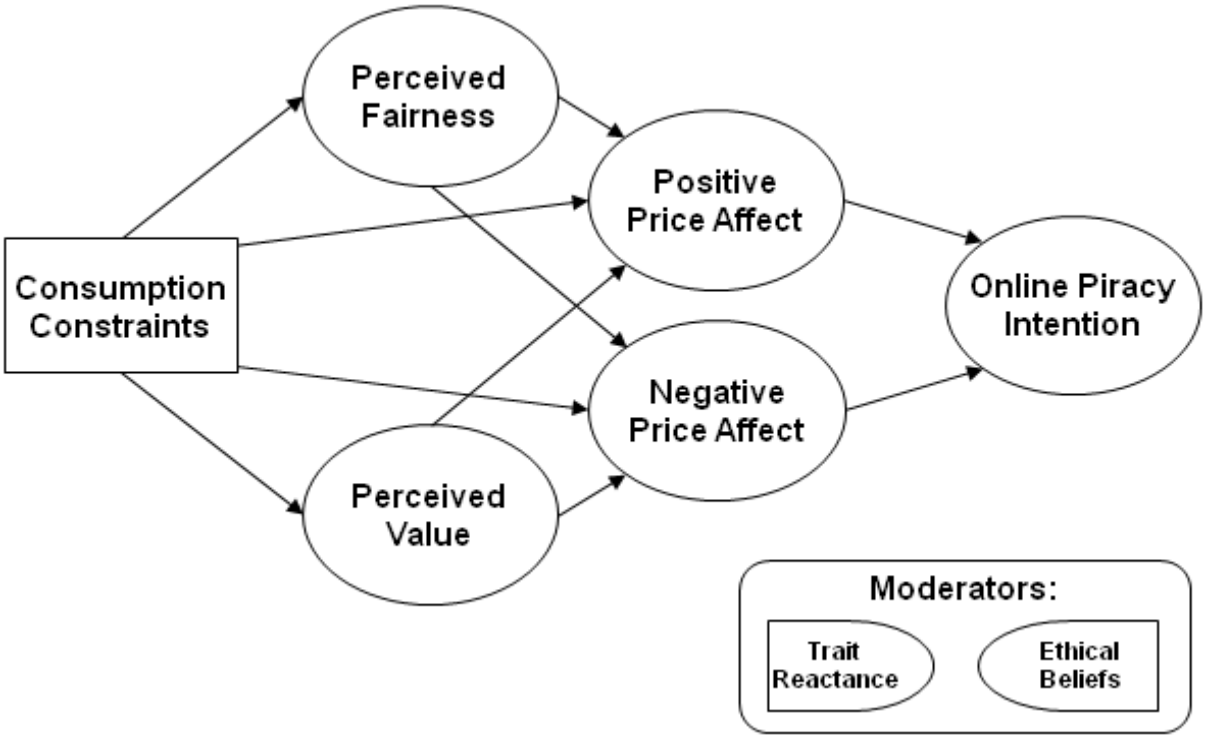


Figure 1: Cognitive-Affective Appraisal Framework

Method

As the present research integrates findings from a wide range of different research traditions into one model it was considered appropriate to first check it against real world data. Therefore open interviews among students of the University of Twente were conducted to get a first impression of the processes that govern online music piracy behavior. After the evaluation of the interviews the main survey was administered online and participants

received course credits for completion. Participants could choose between a Dutch and a German version of the survey.

Interviews

Most of recent, scientific research is conducted with a specific theory in mind and data gathering is used to (dis-)confirm these theories. Another way to explore the logic and motives behind peoples' behavior is the grounded theory approach (Breuer, Dieris, & Lettau, 2009; Corbin & Strauss, 1990; Strauss & Corbin, 1998). This method uses a data driven approach to generate theories. Interviews that are limited to one area of research, but that are otherwise open ended, are used as technique for data gathering. In the following steps the interviews are transcribed into thought units and conceptual relationships are highlighted. This methodology has been used in business ethics research on software piracy (Bhal & Leekha, 2008) and online consumer misbehavior (Harris & Dumas, 2009). It offers a possibility to get a first impression of the opinions about and the reasons to conduct online music piracy without being limited to a theoretical framework. Corbin and Strauss' (1990) original approach to grounded theory was used in this study to give the researcher the ability to focus on the subject of interest instead of letting the subject be defined by the interviewee as was suggested by Glaser (1992).

The 10 interviewees were students in the age range of 19-28 years (M = 22.1, SD = 2.69). 7 respondents were male, 3 female. Given the target population of this study and based on earlier research on student piracy behavior (e.g. Coyle et al., 2009; Gopal et al., 2004) this sample was considered to be appropriate. Interviews were broken into thought units which were summarized into categories that evolved during the interviews.

As the main focus of the interviews was on general music piracy behavior and on the influence of product pricing on online piracy behavior all participants were asked what, in

their opinion, qualifies as music piracy to get a common baseline of understanding. While most participants assumed that downloading music files was the subject of interest two participants also mentioned copying CDs from friends as piracy behavior. All participants agreed that internet piracy was illegal, this did however not influence their piracy behavior. All participants confessed that they have illegally downloaded music files in the past or got illegal CD copies from friends. Reasons to pirate were categorized as monetary ("I think buying music is too expensive, especially for students"), social acceptance ("Everybody does it", "I know no one who has not downloaded music from the internet"), harm denying ("There is no proof that piracy hurts the industry", "The artists are rich enough"), habit ("I did it since [...] Napster got popular"), quality ("I don't pay for badly made music"), easy accessibility ("I can get every song I want with just one mouse click!"), restrictions in handling music files ("What sucks about iPods is that you can only use them with iTunes", "You can't copy Sony files to your MP3 player"), denial of personal consequences ("Why would I get caught, I don't download that much anyway", "I think no one was ever jailed for [online] piracy [in the Netherlands]"), curiosity ("I get to know new music groups when downloading [...] and listening to Spotify") and the wish for a complete music collection ("I like to have all albums [of the artists] even if I only like certain songs"). The participants were generally not concerned about possible prosecution. Reasons not to pirate music were ethical beliefs ("It doesn't feel right to download music"), law obedience ("Downloading is just like stealing", "Piracy is illegal"), future consequences ("If no one pays for music no one will make music anymore", "One has to support younger artists") and the need for a physical object ("I just like to have a CD with a cover, songbook and all that.").

When asked how much the participants would be willing to pay for a single song a huge spread from 0 cent per song to 1.50€ per song (*M* = .51, *SD* = .51, *Median* = .45) was observed. While this price is lower than the optimal price of 60 cent suggested by Iyengar

(2010) and Sinha et al. (in press) three participants stated they were not willing to pay for music at all, thereby skewing the data to the lower end. As only two participants said that they do not occasionally pirate music (anymore) a lower price seems to be a good incentive to get more students to buy music. Of cause these results have to be treated with caution as social desirability is likely to influence the answers in an interview situation especially when the behavior of interest is illegal or can be considered as morally wrong.

When asked how fair participants considered the current prices to be it appeared that it does matter how the profits are distributed between the involved parties ("Apple is getting rich of iTunes for zero costs", "The music industry has missed the trends and is blaming it on internet piracy. [...] I think they are just greedy.", "Artists earn most money from concerts, they get almost nothing for songs they sell"). When asked, most interviewees would even be willing to pay the current prices if the artists received a bigger share of the profit. This seemed to be true especially for younger artists ("[Music labels] spend most money for [marketing] one or two big artists. Why should a new musician have to pay for the marketing of the big artists?").

The interviews supported the notion that online piracy is widely spread among students (Coyle et al., 2009; Cronan et al., 2007; Gopal et al., 2004; Sinha & Mandel, 2008) and that a number of different factors influence online piracy behavior. Price fairness and value for money judgments were mentioned by the interviewees. This does support the importance of price cognition factors for the conceptual framework. Consumers emotional responses ranged from mild annoyance with the music industry to serious anger. At first sight more involvement with the topic seems to predict more piracy behavior, but as affective responses are difficult to measure in an open interview the controlled main study will be needed to get a better insight into this factor.

Answers that were categorized as ethical beliefs were found to be more important to the two participant who did not illegally download music anymore. This confirms the notion that ethical beliefs may be important to inhibit online piracy behavior (Miyazaki et al., 2009). As the focus of this study is on the price evaluation and consumer reactance processes, variables such as social acceptance, habit and denial of consequences were not integrated into the framework as this would be outside the scope of this study.

During the interviews is became apparent that students seem to be sensitive to the distribution of profits in an online music sales setting. Interviewees had no insight into actual profit distributions of the online music marketplace but assumed that the music industry got a larger share of the profits than they deserved, as would be predicted by research on consumer skepticism (Ford et al., 1990; Obermiller, & Spangenberg, 1998). The violation of distributive justice (e.g. Xia et al., 2004) can be conceptualized to be a consumption constraint in an online piracy setting. Interviewees were especially sensitive to the distribution of profits if younger artists were involved. As appraisal theory states that an event has to be important to the customer to evoke affect (Lazarus, 1991) it was decided to manipulate the distribution of profits in the scenarios for the main study.

Sample

Students of the behavioral science department of the University of Twente were invited to participate in the online survey. One hundred and sixty students participated in the study and were rewarded with course credits. Five cases included missing values. As the missing values were caused by web browser compatibility problems with the online survey software the data can be said to be missing completely at random. To get unbiased parameter estimates listwise deletion was used to omit the missing values as was advised by Outhwaite and Turner (2007). The remaining 155 cases were used for the analysis.

119 (77%) participants were female, 36 (23%) were male. 83 (53%) participants were Dutch and 72 (47%) were German. 99 (64%) participant were studying Psychology and 55 (35.5%) were studying Communication Studies, 1 (0.5%) participant was from another field of study. All participants were in the age range from 18 to 30 years (M = 20.81; SD = 2.02).

Measures

Price Affect. The Positive Affect - Negative Affect Scale (PANAS) by Watson and Tellegen (1985) was used in this study. The scale consists of 20 items, where 10 items measure negative affect (scared, afraid, upset, distressed, jittery, nervous, ashamed, guilty, irritable, hostile) and 10 items measure positive affect (enthusiastic, interested, determined, excited, inspired, alert, active, strong, proud, attentive). The items were presented in a random order and rated on a 7-point Likert scale ranging from 1, *not at all*, to 7, *very much*.

Perceived Fairness. Perceived price fairness is the first indicator of price cognitions. A three item price fairness scale with good reliability in online settings was used (Grewal, Hardesty, Iyer, 2004; Maxwell, 1995). The items were presented in a random order and rated on a 7-point Likert scale ranging from 1, *very fair/strongly agree*, to 7, *very unfair/strongly disagree*. The items read "How fair is the price you have to pay per music file?", "The price that you are charged for a music file represents a fair price.", "The consumers are treated fairly?".

Perceived Value. Perceived value is the second indicator of price cognitions. As perceived price value was the concept of interest the four item price value subscale of the PERVAL scale was used (Sweeney et al., 2001). The items were presented in a random order and rated on a 7-point Likert scale ranging from 1, *strongly agree*, to 7, *strongly disagree*. The items were phrased as "The music file is reasonably priced", "The music file offers value

for money", "The music file is a good product for the price", "Buying the music file would be economical".

Behavioral Intention. Consumer behavior could not be directly measured and was operationalized as behavioral intention. To reduce social desirability bias the behavior of the survey protagonist was judged (Chung & Monroe, 2009). The items were adapted from Miyazaky et al. (2009) as they have proven to have a high reliability in an online piracy setting. Items were presented in a random order and rated on a bipolar 7-point Likert scale. Items read "I approve/disapprove of Paul's behavior", "I support/oppose Paul's behavior" and "I think Paul's behavior was the right/wrong thing to do."

Trait Reactance. The most widely used scale to measure trait reactance is the Hong Psychological Reactance Scale (Hong & Faedda, 1996; Hong & Page, 1989). While it has been criticized to be unreliable and to be too dependent on demographic factors on a number of occasions (Jonason, 2007; Jonason & Knowles, 2006) it has also shown to be reliable in the piracy scenarios used by Miyazaki et al. (2009). Insights from health psychology do also suggest that Hong's Psychological Reactance Scale is appropriate to be used in a reactance model that includes both affect and cognitions (Dillard & Shen, 2005). The 11-item Hong Psychological Reactance Scale was used in this study as its psychometric properties have recently been confirmed (Shen & Dillard, 2005). The items were presented in random order and rated on a 7-point Likert scale ranging from 1, *strongly agree*, to 7, *strongly disagree.* See Appendix A for the full list of items.

Ethical Beliefs. Participants' ethical beliefs were measured using a three item scale (Beck & Ajzen, 1991; Cronan & Al-Rafee, 2008). The items were presented in a random order and rated on a 7-point Likert scale. Items read "I would not feel guilty if I pirated digital material", "Digital piracy goes against my principles" and "It would be morally wrong for me to pirate digital material".

Procedure

The study used a scenario based approach and the behavior of a peer (Paul) was rated to reduce social desirability bias that is often found when asking for potentially unethical or illegal behaviors (Chung & Monroe, 2009). After filling in general demographic data participants were randomly presented with one of two possible scenarios and answered all price affect, price fairness, perceived value and behavioral intention measures. The scenarios featured a peer that had recently heard a song from a new band on the radio and found an online shop that offered a new pricing model. Both scenarios featured a price increase from 99 cent to 1.29€. This is in line with price increases in the real world economy and with pricing models that have recently gained prominence (e.g. magnatune.com). In the first scenario (high consumption constraints) the record labels got a bigger share of the profit. In the second scenario (low consumption constraints) the young artists got a bigger share of the profit.The different distribution of profits was chosen as reactance evoking consumption constraint based on the results of the administered interviews. Interviewees frequently mentioned that they would be willing to pay for songs if they were sure that a majority of the money would serve younger artists instead of the music labels or music distributors like iTunes (See appendix B for the two scenarios). After the general survey participants rated the trait reactance and ethical belief scales. A manipulation check testing for the perceived distribution of profits was added.

Software

The online survey was administered using the Thesistools survey software (thesistools.com). SPSS 15.0 for Windows was used for general data analysis. Structural Equation Modeling was conducted using Amos 18.0.0 (Build 992). Advanced analysis of moderation and mediation were conducted using Mplus 5 (Muthén & Muthén, 2007).

Results

Measurement Model

A manipulation check was conducted to make sure that participants have correctly identified the distribution of profits in the two scenarios. Participants in the high constraints condition attributed a significantly lower share of the profits to the young artists (M = 2.71, SD = 1.42) than participants in the low constraints condition (M = 4.27, SD = 1.73; $t(153)$ = 6.13, $p < .001$). The manipulation was considered to be successful.

To conduct Maximum likelihood estimation (MLE) the data has to be normally distributed. Skew and kurtosis for most items were well within normal ranges between +/- 2 (Garson, 2009). Multivariate kurtosis was high (193.49). This is to be expected when using ordinal scales and does not pose a problem for the analysis (Andreassen, Lorentzen, & Olsen, 2006). It was concluded that basic MLE requirements were met (See Appendix C for a full assessment of normality).

Cronbach's Alpha assumes Tau-equivalence and one dimensionality of the scales (Zinbarg, Revelle, Yovel, Li, 2005). When treated as one dimensional all measurement scales had a Cronbach's Alpha above aspiration level (>.70). See Table 1 for a full list of α values.

Table 1
Cronbach's Alpha of the Measurement Scales

Scale	α
Positive affect	.86
Negative affect	.90
Piracy Intention	.76
Perceived Fairness	.89
Perceived Value	.85
Trait Reactance	.76
Ethical Beliefs	.72

To verify the assumption of one dimensionality the measures were evaluated using principal components (exploratory) factor analysis with varimax rotation. In a second step the

variables of the measurement model were tested using a confirmatory SEM approach, as was advised by Kline (2005).

The price cognition measures "Perceived Fairness" and "Perceived Value" showed a high covariance in the dataset (.73). The Perceived Value item "The music file is reasonably priced" was stronger correlated to Perceived Fairness (.63) than to Perceived Value (.55). This poses a threat to the construct validity of the scales and the item was omitted for the data analysis. After deleting the item, Perceived Value and Perceived Fairness still shared a great degree of variance (.63). As Xia et al. (2004) have concluded that the effect of perceived price (un)fairness on consumer intention is mediated by perceived value, the strong covariance can also be theorized to represent a correlation between the two variables. As it is generally advised to test for theory based alternative models (Kline, 2005; Spirtes, Richardson, Meek, Scheines, & Glymour, 1998) the Price Fairness Framework (Xia et al., 2004) will be compared to the Cognitive-Affective Appraisal Framework (Peine et al., 2009).

For the "Positive Affect - Negative Affect Scale" a four factorial design was found with the first factor accounting for 40.3% of variance and a total explained variance of 66.3%. In a second step confirmatory factor analysis (CFA) was used to further test the validity of the original two factorial model (Peine et al., 2009). Overall the two factorial model of price affect showed a very poor fit ($\chi2(170) = 697.28$, $\chi2/df = 4.102$, RMSEA = .14, TLI = .66, CFI = .69) and had to be refined. The refinement process was a stepwise process and for the sake of brevity only the end results will be presented here. After deleting indicators with factor loadings below 0.5 and indicators that were loading on a factor other than would be expected by the theoretical framework (e.g. inspired on negative affect) the measurement model showed an acceptable fit ($\chi2(28) = 56.75$, $\chi2/df = 2.03$, RMSEA = .08, TLI = .84, CFI = .89). For the remainder of this study the refined 7-item PANAS will be used (See Table 2).

Table 2
Standardized and Unstandardized Regression Weights with p Values for the refined Positive - Negative Affect Scale (PANAS)

	Low Consumption Constraints		High Consumption Constraints	
	Negative Price Affect	Positive Price Affect	Negative Price Affect	Positive Price Affect
Distressed	1.00 (fixed) .80	−	1.00 (fixed) .58	−
Upset	.89 (***) .71	−	.91 (***) .57	−
Scared	.88 (***) .82	−	1.52 (***) .83	−
Hostile	.76 (***) .59		1.20 (***) .66	
Interested	−	1.00 (fixed) .66	−	1.00 (fixed) .45
Proud	−	.91 (.001) .60	−	1.88 (.007) .93
Determined	−	1.03 (.002) .65	−	1.19 (***) .62

Note: *** $p < 0.001$

While Hong and Page (1989) proposed a one dimensional Hong Psychological Reactance Scale (HPRS) this assumption has frequently been criticized in the field. Later studies by Hong and Faedda (1996) refined the scale to a four factorial model including the subscales "Emotional Response toward Restricted Choice", "Reactance to Compliance", "Resisting Influence from Others" and "Reactance to Advice & Recommendations". Thomas, Donnel and Buboltz (2001) suggested that the four subscales of the HPRS are only reliable measures of trait reactance if they are allowed to correlate. Shen and Dillard (2005) advocated a four factor first order, unidimensional second order model. As none of these factor structures was consistently replicated by other studies it was considered necessary to test these four models against the data of this study (See Table 3). The models did not reach the cutoff values for goodness of fit indices advised by Hu and Bentler (1999) and had to be rejected. More parsimonious models did not increase the goodness of fit measures and subscales of the HPRS could not be used as standalone predictors as Cronbach's Alpha was below aspiration

level for all subscales (<.70). The HPRS could therefore not be used as reliable trait reactance measure in this study.

Table 3
Fit Indices for the Hong Psychological Reactance Scale

Structure	Authors	$\chi 2$	df	$\chi 2$/df	RMSEA	TLI	CFI
One factorial	Hong & Page (1989)	246.41	44	5.60	.17	.40	.52
Four factorial	Hong & Faedda (1996)	–*	–	–	–	–	–
Four factorial (correlated)	Thomas, Donnel & Buboltz (2001)	134.35	38	3.54	.13	.67	.77
Four factorial first Order - one factorial second Order	Shen & Dillard (2005)	159.12	40	3.98	.14	.61	.72

Note: * Did not converge

Model testing

After preparation of the data and validation of the measurement model the data analysis was conducted using Structural Equation Modeling with MLE. SEM was used both as confirmatory and exploratory technique. As the model of this study is roughly based on the Cognitive-Affective Appraisal Framework suggested by Peine et al. (2009) path analysis was used to confirm the theorized model structure. As trait reactance and ethical beliefs were introduced as new variables SEM was also used as an exploratory technique. This approach to data analysis using SEM was also advised by Jöreskog (1974). To replicate the analysis the covariance matrices are supplied in Appendix D and E.

As a first step the theorized model was tested without the moderating variable ethical beliefs and trait reactance. The results are shown in Figure 2. While the relative chi-square ($\chi 2$/df) showed an acceptable fit, fit indices that penalize for model complexity did not reach the required cutoff criteria for an acceptable fit ($\chi 2(119) = 233.20$, $\chi 2/df = 2.12$, RMSEA = .085, TLI = .85, CFI = .88).

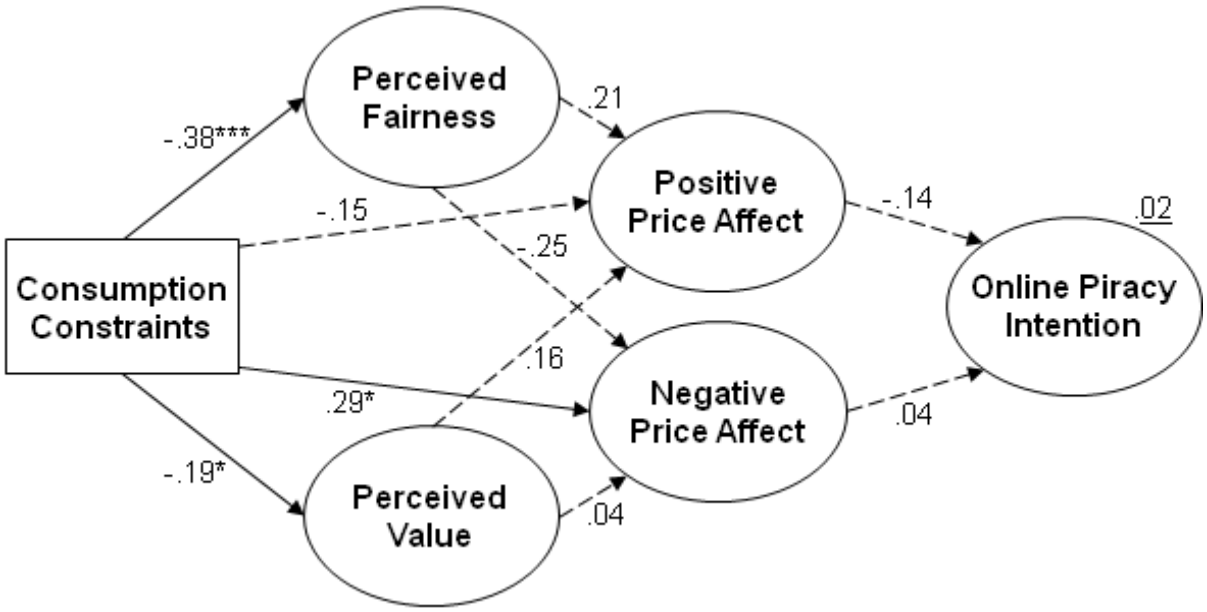


Figure 2: Standardized Path Coefficients of the Theorized Model
Note: *p < .05, **p < .01, ***p < .001

As was evident in the measurement model the price cognition measures Perceived Fairness and Perceived Value shared a high degree of variance. From a theoretical viewpoint it can be argued that both variables are indicators of the higher order factor "Price Cognitions" and in fact two closely related concepts. Hypotheses 5 to 8 predict a similar influence of both variables on the price affect and piracy intention measures. It was therefore considered to be consistent with the proposed theoretical framework to allow the covariance in the model. A high modification index (43.8) also called for an adjustment of this part of the model. The change resulted in an acceptable fit of the model ($\chi2(109) = 179.11$, $\chi2/df = 1.64$, RMSEA = .065, TLI = .92, CFI = .93). Figure 3 shows the path coefficients of the adjusted model.

The adjusted model still only explained a very small degree of variance (2%) of Online Piracy Intention. Consumption Constraints were positively related to Negative Price Affect, giving support to Hypothesis 1. The effect of Consumption Constraints on Positive Affect, while in the hypothesized direction, did not reach the level of significance (H2). Hypothesis 3

(Negative price affect is positively related to pirating intention) and Hypothesis 4 (Positive price affect is negatively related to pirating intention) were also not supported by the data.

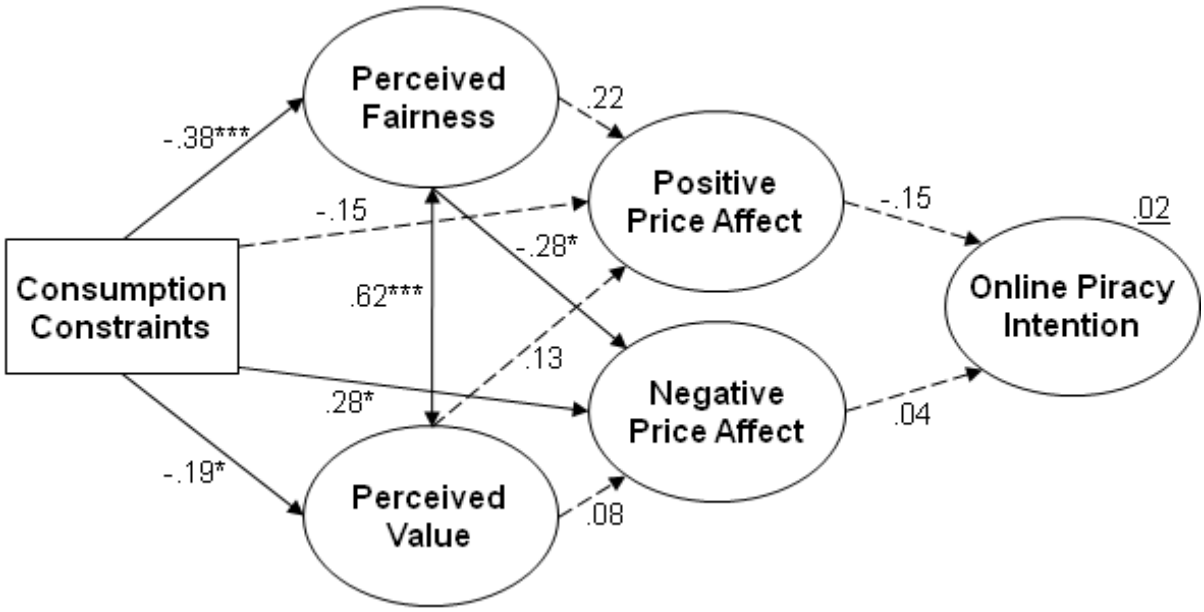


Figure 3: Standardized Path Coefficients of the adjusted model (Covariance allowed)
Note: *p < .05, **p < .01, ***p < .001

Analysis of Mediation

The most prominent guideline for testing mediation (Hypotheses 5-8) is the multistep approach by Baron and Kenny (1986). More recently this process has been criticized, as the requirements of the first step (significant, direct effect from independent variable *IDV* on dependent variable *DV*) are often not met in more complex models (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). This was also the case in the present study as is evident in the insignificant path coefficients of the model. The effect from *IDV* to *DV* is likely to be negatively affected by additional factors in the model, additional links and influences of random factors (Shrout & Bolger, 2002). Especially the high covariance between the price cognition measures in this model is likely to have an impact on mediation effects if Baron and Kenny's procedure is used. Therefore testing of the mediation hypothesis was conducted in one step by examining the total and specific indirect effects. Peine et al. (2009) used the prominent Sobel test (Sobel, 1982) to analyze the significance of the indirect effect ($a \times b$).

This test does however assume a normal distribution of the indirect effect. This is however nearly never the case in experimental studies. Especially with relatively small sample sizes the distribution of a product ($a \times b$) is nonnormal even if the latent variables are normally distributed (Edwards & Lambert, 2007). The author followed Edwards' and Lambert's (2007) advise and used bootstrapping (with n = 2000 bootstrap resamples) as an alternative procedure. *Mplus* with macros supplied by Preacher and Hayes (2008) was used for the analysis. Results are summarized in Table 4.

Table 4
Summary of Mediation Results for the Price Affect Model

	Independent variable (IDV)	Mediating variable (M)	Dependent variable (DV)	Effect of IDV on M (a)	Effect of M on DV (b)	Direct effects (c')	Indirect effects (a×b)
H5a	Consumption Constraints	Perceived Fairness	Negative Affect	-.38	-.28	.28	.18
H5b	Consumption Constraints	Perceived Fairness	Positive Affect	-.38	.22	-.15	-.11
H6a	Perceived Fairness	Negative Affect	Piracy Intention	-.28	.04	-.24	.02
H6b	Perceived Fairness	Positive Affect	Piracy Intention	.22	-.15	-.24	.00
H7a	Consumption Constraints	Perceived Value	Negative Affect	-.19	.08	.28	-.07
H7b	Consumption Constraints	Perceived Value	Positive Affect	-.19	.13	-.15	-.04
H8a	Perceived Value	Negative Affect	Piracy Intention	.08	.04	-.20	-.01
H8b	Perceived Value	Positive Affect	Piracy Intention	.13	-.15	-.20	.00

Unstandardized Path Coefficients

Mediation hypothesis 5-8 could not be corroborated as none of the indirect effects reached the level of significance. Neither did Price Cognitions mediate the effect of Consumption Constraints on Price Affect. Nor did Price Affect mediate the effect of Price Cognitions on Online Piracy Intention. Adding the mediation variables to the model did not cause any of the insignificant effects in the model to significantly change in direction or magnitude.

Analysis of Moderation

As the factor structure of the moderating variable Trait Reactance could not be confirmed, moderation analysis was only conducted with the Ethical Beliefs variable. Moderation analysis was conducted using the latent moderated structural (LMS) model approach

proposed by Klein and Moosbrugger (2000). This approach does not require the extensive amount of nonlinear model constraints that are needed for the widely used product indicator model (Kenny & Judd, 1984) and is directly implemented in the *Mplus* 5 software package (Little, Bovaird, & Widaman, 2006). Ethical Beliefs were expected to moderate the cognitive-affective price evaluation process without specific claims where this moderation takes place (H10). Adding the moderator to the price evaluation part of the model, moderating either the effect of consumption constraints on price affect and price cognitions or moderating the effect of price cognitions on price affect, could not be computed as the residual matrix was no longer positively defined. As negative residuals occur when a model is over identified or misspecified results cannot be interpreted in a meaningful way. The interactions for Positive Affect and Negative Affect with Ethical Beliefs could however be computed. There was a significant main effect of Ethical Beliefs on Online Piracy Intention ($\beta = -.68$; $R^2 = .46$; $p < .005$) but no significant interaction effect of Ethical Beliefs with Positive Affect ($\beta = -.07$; $R^2 = .00$; $p = .58$) or Negative Affect ($\beta = .01$; $R^2 = .00$; $p = .93$). Hypothesis 10 was therefore not supported by the data.

Alternative Model Building

The proposed price affect model only explained a small degree of variance in the Online Piracy Intention measure and with the exception of Hypothesis 1 the Hypotheses of the conceptual framework were not supported by the data. The results offered little insight into the price evaluation process in an online piracy setting. Taking the high correlation between the price cognition measures as starting point it was decided to test the data against a model closer to the propositions of the price fairness framework by Xia et al. (2004). Testing of other theoretically plausible models is generally advisable to make sure that the advocated model is indeed the best fitting model for the data (Kline, 2005; Spirtes et al., 1998).

As has been noted, the strong covariance of the Perceived Fairness and Perceived Value measures can also be theorized to be a theoretical meaningful correlation. In the Conceptual Framework of Price Fairness (Xia et al. 2004) the effect of perceived fairness on consumer behavior is mediated by perceived value. Perceived Value and Perceived Fairness are theorized not to occur at the same time. Rather Price Fairness perceptions cause shifts in Perceived Value. Perceived fairness is also theorized to mediate the effect of Consumption Constraints on positive and negative price affect, but price affect is not directly linked to Perceived Value.

The moderation analysis showed a strong correlation between Ethical Beliefs and Online Piracy Intention. This is in support of findings from Cronan et al. (2007) who introduced Ethical Beliefs as a direct predictor of Online Piracy Intention.

The model was adjusted to reflect this alternative theoretical approach (Figure 4).

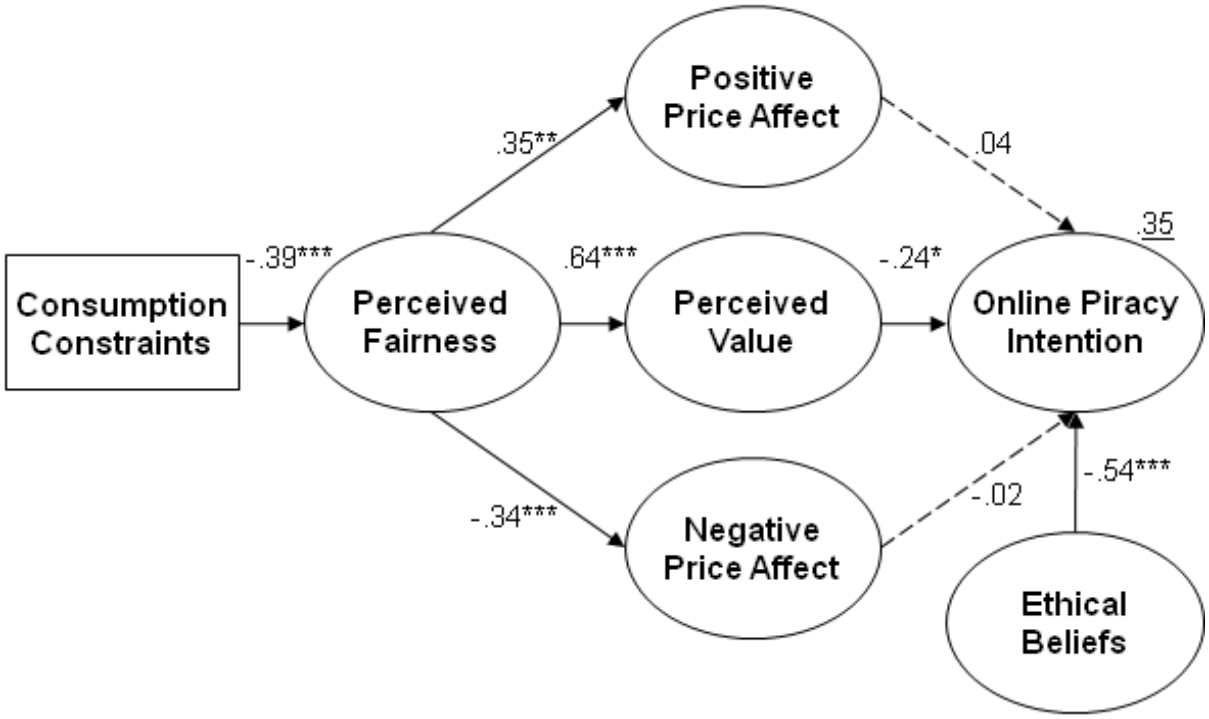


Figure 4: Standardized Path Coefficients of the Price Fairness Framework
Note: *p < .05, **p < .01, ***p < .001

The model showed an acceptable fit ($\chi2(163) = 263.36$, $\chi2/df = 1.62$, RMSEA = .06, TLI = .90, CFI = .92). As theorized by Xia et al. (2004) violation of distributive justice (a higher

share of profits for the music industry) did diminish the perception of price fairness. In line with the predictions of the framework Price Fairness was positively related to Positive Affect and Perceived Value and negatively related to Negative Affect. The effect of the Price Affect measures on Online Piracy Intention did not reach the level of significance. Perceived Value was however a significant predictor of Online Piracy Intention. The complete set of variables, including Ethical Beliefs, explained 35% of variance in the Online Piracy Intention measure.

Perceived Value was integrated as mediating factor between Perceived Fairness and Online Piracy Intention. Perceived Fairness was also theorized to mediate the effect of Consumption Constraints on Perceived Value. The mediating role of Perceived Fairness on the effect of Consumption Constraints on Positive- and Negative Price Affect was also tested for. Bootstrapping with n = 2000 bootstrap resamples and 90% confidence intervals (corresponding to $\alpha = .10$) was used to test the indirect effects:

Table 5
Summary of Mediation Results for the Price Fairness Framework

Independent variable (IDV)	Mediating variable (M)	Dependent variable (DV)	Effect of IDV on M (a)	Effect of M on DV (b)	Direct effects (c')	Indirect effects (a×b)
Perceived Fairness	Perceived Value	Online Piracy Intention	.42	-.26	-.14	-.10*
Consumption Constraints	Perceived Fairness	Perceived Value	-1.01	.44	.11	-.45***
Consumption Constraints	Perceived Fairness	Positive Price Affect	-.95	.20	-.24	-.19**
Consumption Constraints	Perceived Fairness	Negative Price Affect	-.95	-.21	.70	.20**

Unstandardized Path Coefficients
Note: *p < .10, ** < .05, *** < .001

When adding Perceived Fairness as mediator between Consumption Constraints an Perceived Value the direct effect (c') became insignificant and a strong indirect effect ($p < .001$) could be observed. The mediation was nearly complete.

The indirect effect Perceived Fairness exerts on Online Piracy Intention merely reached the level of significance ($p = .099$). While the mediation was not complete ($c' \neq 0$) the addition of Perceived Value as mediating factor did significantly decrease the variance in

Internet Piracy Intention explained by Perceived Fairness alone (c), as would be predicted for a partial mediation.

The effect of Consumption Constraints on Positive- and Negative Affect was mediated by Perceived Fairness (Indirect effects of -.19 and -.20 respectively) as was predicted in Hypothesis 5. Letting only one price cognition factor (Perceived Fairness) mediate the effect of Consumption Constraints on Price Affect resulted in a more stable model while being in line with the theoretical framework suggested by Xia et al. (2004).

Model comparison

Table 6 gives an overview over the fit indices of the Price Affect Model and the Price Fairness Framework. Fit indices for both models were very similar. The comparative fit indices AIC and EVCI are used to compare two non nested models and are sensitive to model parsimony. As the Price Fairness Framework includes one additional latent variable (Ethical Beliefs) with three indicators and an additional link to Online Piracy Intention the AIC and EVCI measures of the Price Affect Model are marginally better. The main advantage of the Price Fairness Framework is the higher explained variance in the Online Piracy Intention measure and a better interpretability of the price cognition measures.

Table 6
Fit Indices and Comparative Fit Indices

	Price Affect Model	Price Fairness Framework
$\chi 2$	179.11	263.36
DF	109	163
$\chi 2$/DF	1.64	1.62
RMSEA	.07	.06
TLI	.91	.90
CFI	.93	.92
AIC	267.11	357.36
EVCI	1.7	2.32
R^2	.02	.35

Discussion

The main goal of this study was to determine how consumption constraints, such as the violation of distributive justice, influence online piracy intentions. The original model by Peine et al. (2009) was based on the proposals of appraisal theory (Lazarus, 1991). In appraisal theory, affect is only aroused if the outcome is relevant to the consumer and goal congruency would predict an increase in negative price affect and a decrease in positive price affect if distributive justice is violated. The current study offers only weak support for this hypothesis as only a small increase in negative affect and no decrease in positive affect was observed when prices were increased to benefit the music industry. It can be argued that the first necessary step of appraisal theory was not met in this study. This would lead to the conclusion that the distribution of profits in an online piracy setting is not important to the customers. The distribution of profits was however explicitly mentioned by interviewees during the pre research interviews. As the interviewees were part of a convenience sample of students who agreed to take part in the interviews there is a possibility that the interview results are biased as only students with high involvement in the topic might have been willing to participate. As a result the distribution of profits may only be relevant for a subsample of students. Future studies should therefore integrate measures of consumer involvement such as the Personal Involvement Inventory (Zaichkowsky, 1985) to see if the topic of interest is relevant to the customer.

Furthermore the theoretical framework suggested a strong link between affect and behavior (Frijda et al., 1989). This link could not be confirmed by this study. It can be argued that low involvement with the topic only triggered weak affective reactions which did not call for coping behavior such as online piracy (Bagozzi, 1992; Lazarus, 1991) but resulted in passive consumer behavior (no purchase intention) (Xia et al., 2004).

Consumers were however not completely indifferent to the price increase. This becomes evident when taking the price cognition measures, Perceived Fairness and Perceived Value, into account. A price increase that resulted in higher profits for the music industry was seen as less fair and the music files had a lower perceived value. Price cognitions did however not mediate the effect of consumption constraints on price affect, and had therefore no direct or indirect effect on online piracy intention. While the overall model showed an acceptable fit to the data the interpretability of the path model was somewhat limited.

The price fairness framework (Xia et al, 2004) was introduced as an alternative model to explain online piracy intention. The price fairness framework offered a similar model fit while the path model was more consistent with the underlying theory. In the price fairness framework changes in the marketplace directly give raise to perceived price (un)fairness. The fairness perceptions in turn are the cause of consumer affect. Perceived value does mediate the influence of perceived fairness on consumer purchase behavior. That is to say consumer cognitions are evoked in a two step process and not in parallel as would be predicted by the price affect model (Peine et al., 2009). As the high covariance of Perceived Fairness and Perceived Value can also be interpreted as a correlation, the price fairness framework gives a possible explanation for this finding. Increasing prices to give a larger share of profit to young artists instead of the music industry was seen as more fair, as was expected based on the interviews and distributive justice theory (Xia et al., 2004) and research on consumer skepticism (Bolton et al., 2003). When the profits for the music industry were made salient by the scenarios the perception of price unfairness did diminish the perceived value of the music files. This change can be attributed to an increased perception of monetary sacrifice if a price is seen as unfair (Monroe, 2003; Xia et al., 2004). Price fairness did not only directly influence perceived value, but also had a significant indirect effect on online piracy intention. This strong mediating effect is again consistent with the predictions of the price fairness

framework. Perceived fairness also mediated the effect of consumption constraints on consumer affect. This mediation shows that the price increase did not directly influence price affect but that price affect was triggered by perceptions of price unfairness. But again price affect was not translated into consumer intention or behavior. Piracy intention was however strongly predicted by the consumers' ethical beliefs. Ethical beliefs and moral values are no concepts of the original price fairness framework but insights from the research on shoplifting, another aberrant consumer behavior, may be applied to interpret the findings (Babin & Babin, 1996).

People generally want to behave consistent to their own moral values but strong emotional events may break down their resistance and lead them to behave in ways that they may otherwise see as morally wrong (Babin & Babin, 1996). The manipulation in this study may not have been strong enough to evoke enough affect to challenge the moral values of the participants. This is consistent with research on the "cognitive structure" (Kuhl, 1986) of ethical beliefs. The stronger this cognitive structure the harder it is to overcome and the less likely it gets that intentions will be influenced by induced emotional states (Kuhl, 1986; Miyazaki, 2009). This would again call for a stronger manipulation and a more reliable measure of price affect.

It has also to be taken into consideration that age is argued to be the main factor that makes it difficult to overcome ethical beliefs, as they tend to grow stronger over time. In this study only a subsample of the overall population, students in the low twenties, were included. Based on the findings of Babin and Babin (1996) it would be expected that ethical beliefs play a stronger role for these participants than for high school students who would rely more on situational, evoked emotions. Older consumers in turn should be even more occupied with moral norms and less with moral equity, which is a similar concept to perceived fairness. Future studies should take this into consideration and use an appropriate sample to test if the

effects of price affect, price cognitions and ethical beliefs on online piracy intention are indeed moderated by age.

Finally the insights into the psychological reactance process are closely related to the findings on the price affect framework. Trait reactance could not be included into the study so only the overall reactance evoking process can be discussed. A price increase was theorized to be a consumption constraint, especially if the increase is seen as unfair. In research on psychological reactance there is still some discussion over the process that follows a reactance evoking consumption constraint. If reactance is a purely cognitive process (Petty & Cacioppo, 1979) the results of this study would be in strong support of this assumption. However more recent research has shown that reactance is a cognitive-affective process (Dillard & Shen, 2005; Quick & Stephenson, 2007; Rains & Turner, 2007) and the weak affective responses in this study would lead to the conclusion that no reactance was evoked. Recent research on reactance theory (Quick & Stephenson, 2008) has shown that personal factors should be taken into consideration when discussing the reactance process. The influence of personal factors is theorized to be very similar to the described appraisal process. Quick and Stephenson (2008) proposed that reactance is only triggered if an event is perceived as a threat to personal freedom. Whether an event is perceived as a threat is highly dependent on trait reactance. Customers high in trait reactance are more likely to perceive an event as threat to their personal freedom. In terms of appraisal theory the event (consumption constraints) has to be in conflict with the own personal concerns (need for freedom, trait reactance) to evoke affective reactions. Quick and Stephenson (2008) developed a scale to measure if individuals perceive a threat to their personal freedom. People who score high on that scale can be theorized to also show a high personal involvement with unfair price distributions (Zaichkowsky, 1985). Future studies should take this into consideration to integrate research on appraisal theory and psychological reactance into a consistent model.

Managerial Implications

This research offers some insight into the underlying processes of online piracy behavior that can be directly applied to the marketplace. The interviews conducted in this study revealed that some students are sensitive to how the profits in an online music shopping context are distributed. The predominant opinion was that the music industry is getting a huge share of the profit, which is seen as unfair especially as their investment is perceived to be low. As perceived unfairness has shown to be a direct predictor of perceived value and piracy intention, music distributors should try to generate a positive and fair perception of their profits. As consumers tend to have inappropriate beliefs over the distribution of profits (Bolton et al., 2003) educating them about actual costs can help to lower skepticism. This study has shown that a higher profit for young artists can, to a limited degree, decrease internet piracy intention, even if prices are raised. The implications of this finding are twofold. Firstly this is in line with other findings in the marketplace were a price increase can have a positive influence on overall profits depending on how they are communicated to the customer (Stone, 2009). Secondly some customers seem to be sensitive to a fair treatment of young artists. If music distributors can raise prices to give a larger share to the young artists without cutting their own profits this could be an effective strategy to entice young customers not to pirate but to buy music. Price increases are therefore no consumption constraints per se but the context and the justification of the price increase plays an important role.

The research has also shown that ethical beliefs have a strong influence on online piracy behavior. Research on trait reactance (Hong et al., 1996) has however shown that the obvious solution to remind customers of ethical norms and values has a high potential to backfire on the industry and is generally not advisable.

As a last note it has to be mentioned that the internet reshapes the perception of intellectual property and the justification of copyrights. Especially if the internet changes

social values over time the strong negative effect of ethical beliefs on online piracy behavior may no longer be observed in future generations. Current justifications of copyrights are largely based on a capitalistic conception of private property (Yar, 2008). The internet offers new ways to organize cultural goods in a creative way without using copyright restrictions. It has been theorized that the notion of intellectual property may in fact be a threat to creativity (Vaidhyanathan, 2003) and music redistributors may benefit from slowly adapting to these new trends rather than trying to enforce copyright laws that are ignored by a growing number of customers.

Limitations

The main limitation of this study is the failure to generate a theory consistent measure of trait reactance. Trait reactance was theorized to be an important moderating factor in explaining online piracy behavior. None of the proposed factor structures of the Hong Psychological Reactance Scale (Hong & Page, 1989) could be confirmed in this study. The HPRS has already been criticized to be unreliable in other studies (Jonason, 2007). The hypothesized factor structure has also frequently been changed simply on the basis of experimental data, without strong implications for the underlying theory (Hong & Faedda, 1996; Shen et al., 2005; Thomas et al., 2001). It is strongly recommended to use a reactance measure with more promising psychometric properties, such as the Therapeutic Reactance Scale (Woller, Buboltz, & Loveland, 2007).

Another limitation of the study is the use of a convenient sample. As is the case in many studies on online piracy much of the research is focused on students (e.g. Coyle et al., 2009; Cronan et al., 2007; Gopal et al., 2004; Sinha & Mandel, 2008). Results may therefore not be applicable to the overall population. Customers above age 35 have for example shown to be more willing and able to pay for music when compared to students (Simon et al., 2006). As theorized by Babin and Babin (1996) age and resulting rigidity of moral standards may also

play an important role in aberrant consumer behavior. Using only a subsample of the population in a limited age range and with shared characteristics can cause high homogeneity in the dataset and deviation in effect direction and magnitude when compared to the whole population (Peterson, 2001).

Finally the overall explained variance of online piracy intention was relatively low. Factors such as social norms, quality judgments, ease of use, habit and novelty were mentioned during the interviews and have shown to influence online piracy behavior in other studies (Hinduja, 2003; Kwong et al., 2003; Miyazaki, 2009). Behavioral models that try to explain and predict consumer behavior may however be better suited to study these factors (e.g. Venkatesh, Morris, Davis, & Davis, 2003) as not all of them can be theorized to directly influence the price appraisal process. Other factors that evolved during the interviews may however be integrated to get a better understanding of the price affect framework and the psychological reactance process. Restrictions in handling music files such as the need to use iTunes with an iPod or the restricted possibilities to copy Sony music files may serve as consumption constraints in future studies. Similarly stronger laws directly limit a user's freedom and are likely to evoke consumer reactance (e.g. Bhattacharjee et al., 2006). Another topic for future research is the effectiveness of anti-piracy ads. Research on this topic is very limited but first results have shown that anti-piracy arguments have no effect on online piracy intention (D'Astous, Colbert, & Montpetit, 2005). Depending on how these ads are formulate they may backfire on the industry by evoking consumer reactance (Quick and Stephenson, 2008). In summary there are still a great number of factors and possible scenarios that may directly or indirectly influence the price evaluation process in an online piracy setting and this study is but a first step to come to a better understanding of these processes.

References

Andreassen, T.W., Lorentzen, B.G., & Olsson, U.H. (2006). The impact of non-normality and estimation methods in SEM on satisfaction research in marketing. *Quality and Quantity, 40*(1), 39-58.

Babin, B.J., Babin, L.A. (1996). Effects of Moral Cognitions and Consumer Emotions on Shoplifting Intentions. *Psychology and Marketing, 13*(8), 785-802.

Bagozzi, R.P. (1992). The Self-Regulation of Attitudes, Intentions, and Behavior. *Social Psychology Quarterly, 55*(2), 178-20.

Baron, R.M., & Kenny, D.A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality & Social Psychology, 51,* 1173-1182.

Bechwati, N.N., Sisodia, R.S., & Sheth, J.N. (2009) Developing a model of antecedents to consumers' perceptions and evaluations of price unfairness. *Journal of Business Research, 62*, 761-767.

Beck, L., & Ajzen, I. (1991). Predicting Dishonest Actions Using the Theory of Planned Behavior. *Journal of Research in Personality, 25*(3), 285-301.

Bhal, K. T., & Leekha, N. D. (2008). Exploring Cognitive Moral Logics Using Grounded Theory: The Case of Software Piracy. *Journal of Business Ethics, 81,* 635-646.

Bhattacharjee S, Gopal, R. D., Lertwachara, K., & Marsden, J. R. (2006). Impact of Legal Threats on Online Music Sharing Activity: An Analysis of Music Industry Legal Actions. *Journal of Law and Economics, 49*, 91-114.

Bolton, L. E., Warlop, L., & Alba, J. W. (2003). Consumer Perceptions of Price (Un)Fairness. *Journal of Consumer Research, 29,* 474-491.

Brehm, S. S., & Brehm, J.W. (1981). *Psychological Reactance: A Theory of Freedom and Control*. New York: Academic Press.

Breuer, F., Dieris, B., Lettau, A. (2009). *Reflexive Grounded Theory: Eine Einführung für die Forschungspraxis.* Wiesbaden: VS Verlag für Sozialwissenschaften.

Campbell, M. C. (1999). Perceptions of Price Unfairness: Antecedents and Consequences. *Journal of Marketing Research, 36,* 187-99.

Chung, J., & Monroe, G. S. (2003). Exploring Social Desirability Bias. *Journal of Business Ethics, 44,* 291-302.

Corbin, J., & Strauss, A. (1990). Grounded Theory Research: Procedures, Canons, and Evaluative Criteria. *Qualitative Sociology, 13,* 3-21.

Coyle, J.R., Gould, S.J., Gupta, P., Gupta, R. (2009). "To buy or to pirate": The matrix of music consumers' acquisition-mode decision-making. *Journal of Business Research, 62,* 1031-1037.

Cronan, T. P., & Al-Rafee, S. (2007). Factors that Influence the Intention to Pirate Software and Media. *Journal of Business Ethics, 78,* 527–45.

D'Astous, A., Colbert, F., Montpetit, D. (2005). Music piracy on the web - How effective are anti-piracy arguments? Evidence from the theory of planned behaviour. *Journal of Consumer Policy, 28*(3), 289-310.

Dillard, J. P., & Shen, L. (2005). On the Nature of Reactance and its Role in Persuasive Health Communication. *Communication Monographs,72*(2),144-168.

Edwards, J. R., & Lambert, L. S. (2007). Methods for integrating moderation and mediation: A general analytical framework using moderated path analysis. *Psychological Methods, 12,* 1-22.

Ford, G. T., Smith, D. B., & Swasy, J. L. (1990). Consumer Skepticism of Advertising Claims: Testing Hypotheses from Economics of Information. *Journal of Consumer Research. 16*(4), 433-441.

Forehand, M. R., & Grier, S. (2003). When is Honesty the Best Policy? The Effect of Stated

Company Intent on Consumer Skepticism. *Journal of Consumer Psychology, 13*(3), 349-356.

Frijda, N. H., Kuipers, P., & ter Schure, E. (1989). Relations among emotion, appraisal, and emotional action readiness. *Journal of Personality and Social Psychology, 57,* 212-228.

Garson, G.D. (2009). Structural Equation Modeling, from *Statnotes: Topics in Multivariate Analysis*. Retrieved May 15, 2009, from http://faculty.chass.ncsu.edu/garson/pa765/statnote.htm.

Glaser, B.G. (1992). *Emergence vs. Forcing: Basics of Grounded Theory Analysis*. Mill Valley, CA: Sociology Press.

Gopal, R. D., Sanders, G. L., Bhattacharjee, S., Agrawal, M., & Wagner, S. C. (2004). A Behavioral Model of Digital Music Piracy. *Journal of Organizational Computing and Electronic Commerce, 14*(2), 89-105.

Grewal, D., Hardesty, D.M., & Iyer, G.R. (2004). The Effects of Buyer Identification and Purchase Timing on Consumers' Perceptions of Trust, Price Fairness, and Repurchase Intentions. *Journal of Interactive Marketing, 18*(4), 87-100.

Harris, L. C., Dumas, A. (2009). Online consumer misbehaviour: an application of neutralization theory. *Marketing Theory, 9*(4), 379-402.

Hinduja, S. (2003). Trends and patterns among online software pirates. *Ethics and Information Technology, 5,* 49-61.

Higgins, G. E., Wolfe, S. E., & Ricketts, M. L. (2009). Digital Piracy: A Latent Class Analysis. *Social Science Computer Review, 27*(1), 24-40.

Hoch, S J., & Loewenstein, G. F. (1991). Time- Inconsistent Preferences and Consumer Self-Control. *Journal of Consumer Research, 17,* 492-507.

Hong, S. M., & Faedda, S. (1996). Refinement of the Hong Psychological Reactance Scale. *Educational and Psychological Measurement, 56,* 173-182.

Hong, S. M., & Page, S. (1989). A Psychological Reactance Scale: Development, Factor Structure, and Reliability. *Psychological Reports, 64*(3), 1323-1326.

Hu, L., & Bentler, P.M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*, 1-55.

Iyengar, R. (2010). *Optimal Pricing for a Menu of Service Plans - An Application to the Digital Music Industry*. Philadelphia, PA: Wharton University Press.

Jonason, P. K. (2007). Further Tests of Validity for the One-Dimensional Hong's Psychological Reactance Scale. *Psychological Reports, 101*, 871-874.

Jonason, P.K., & Knowles, H. (2006). A unidimensional measure of Hong's Psychological Reactance Scale. *Psychological Reports, 98*, 569-579.

Jöreskog, K.G. (1974). Analyzing psychological data by structural analysis of covariance matrices. *Contemporary developments in mathematical psychology, 2*, 1-56.

Kenny, D. A., & Judd, C. M. (1984). Estimating the nonlinear and interactive effects of latent variables. *Psychological Bulletin, 96*, 201-210.

Klein, A., & Moosbrugger, H. (2000). Maximum likelihood estimation of latent interaction effects with the LMS method. *Psychometrika, 65*, 457-474.

Kline, R. (2005). *Principles and practice of structural equation modeling*. (2nd ed.). New York, NY: Guilford Press.

Koslow, S. (2000). Can the Truth Hurt? How Honest and Persuasive Advertising Can Unintentionally Lead to Increased Consumer Skepticism. *Journal of Consumer Affairs, 34* (2), 245-268.

Kuhl, J. (1986). Motivation and information processing: A new look at decision making, dynamic change, and action control. In R. M. Sorrentino & T. Higgins (Eds.), *Handbook of motivation and cognition: Foundations of social behavior* (pp. 404-434). New York: The Guilford Press.

Kunda, Z. (1990). The Case of Motivated Reasoning. *Psychological Bulletin, 108*(3), 480-498.

Kwong, K.K., Yau, O.H.M., Lee, J.S.Y, Sin, L.Y.M., Tse, A.C.B. (2003). The Effects of Attitudinal and Demographic Factors on Intention to Buy Pirated CDs: The Case of Chinese Consumers. *Journal of Business Ethics, 47*(3), 223-235.

Lazarus, R. S. (1991). Progress on a cognitive-motivational-relational theory of emotion. *American Psychologist, 46*, 819-34.

Lin, C.Y. (2008). An Evaluation of Explanation Effects on Consumer Perceptions. *Social Behavior and Personality, 36*(3), 373-384.

Little, T.D., Bovaird, J.A., Widaman, K.F. (2006). On the Merits of Orthogonalizing Powered and Product Terms: Implications for Modeling Interactions Among Latent Variables. *Structural Equation Modeling: A Multidisciplinary Journal, 13*, 4, 497-519.

Loewenstein, G. F. (1996). Out of Control: Visceral Influences on Behavior. *Organizational Behavior and Human Decision Processes, 65*, 272-292.

MacKinnon, D. P., Lockwood, C. M., Hoffman, J. M., West, S. G., & Sheets, V. (2002). A comparison of the methods to test mediation and other intervening variable effects. *Psychological Methods, 7*, 83-104.

Maxwell, S. (1995). What makes a Price Increase seem fair? *Strategy & Practice, 21*(3), 21-27.

Miyazaki, A.D., Rodriguez, A.A., & Langenderfer, J. (2009). Price, Scarcity, and Consumer Willingness to Purchase Pirated Media Products. *Journal of Public Policy & Marketing, 28*(1), 71-84.

Monroe, K.B. (2003). Pricing: Making Profitable Decisions (3d ed.). Burr Ridge, IL: McGraw-Hill/Irwin. In Xia, L., Monroe, K.B., & Cox, J.L. (2004). The Price Is Unfair! A Conceptual Framework of Price Fairness Perceptions. *Journal of Marketing, 68*, 1-15.

Muthén, L. K., & Muthén, B. O. (2007). *Mplus user's guide* (5th ed.). Los Angeles: Author.

Obermiller, C., & Spangenberg, E. R. (1998). Development of a scale to measure consumer skepticism toward advertising. *Journal of Consumer Psychology, 7*, 159-186.

O'Neill, R.M., & Lambert, D.R. (2001). The Emotional Side of Price. *Psychology & Marketing, 18*, 217-237.

Outhwaite, W., Turner, S. (2007). *The SAGE Handbook of Social Science Methodology*. Thousand Oaks, CA: Sage.

Peine, K., Heitmann, M., & Herrmann, A. (2009). Getting a Feel for Price Affect: A Conceptual Framework and Empirical Investigation of Consumers' Emotional Responses to Price Information. *Psychology & Marketing, 26*, 39-66.

Peoples, G. (2009). iTunes Price Changes Hurt Some Rankings. Retrieved December 29, 2009, from http://www.billboard.biz/bbbiz/content_display/industry/e3i7917210cb575a9b91b4543e3d671922a

Peterson, R.A. (2001). On the Use of College Students in Social Science Research: Insights from a Second-Order Meta-analysis. *Journal of Consumer Research, 28*, 450-461.

Petty, R. E., & Cacioppo, J. T. (1979). Effects of forewarning of persuasive intent and involvement on cognitive responses and persuasion. *Personality and Social Psychology Bulletin, 5*, 173–176.

Preacher, K.J., & Hayes, A.F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods, 40* (3), 879-891.

Quick, B.L., & Stephenson, M.T. (2007). Further Evidence That Psychological Reactance Can Be Modeled as a Combination of Anger and Negative Cognitions. *Communication Research, 34*(3), 255-276.

Quick, B.L., & Stephenson, M.T. (2008). Examining the Role of Trait Reactance and

Sensation Seeking on Perceived Threat, State Reactance, and Reactance Restoration. *Human Communication Research, 34*, 448-476.

Rains, S. A., & Turner, M. M. (2007). Psychological Reactance and Persuasive Health Communication: A Test and Extension of the Intertwined Model. *Human Communication Research, 33*, 241-269.

Shen, L., & Dillard, J.P. (2005). Psychometric Properties of the Hong Psychological Reactance Scale. *Journal of Personality Assessment, 85*(1). 74-81.

Shiv, B., & Fedorikhin, A. (1999). Heart and Mind in Conflict: The Interplay of Affect and Cognition in Consumer Decision Making. *Journal of Consumer Research, 26*, 278-292.

Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and nonexperimental studies: New procedures and recommendations. *Psychological Methods, 7*, 422-445.

Simon, H., Bilstein, F.F., & Luby, F. (2006). *Manage for Profit, Not for Market Share: A Guide to Greater Profits in Highly Competitive Markets.* Cambridge, MA: Harvard Business School Press.

Sinha, R.K., & Mandel, N. (2008). Preventing Digital Music Piracy: The Carrot or the Stick? *Journal of Marketing, 72*, 1-15.

Sinha, R.K., Machado, F.S., & Sellman, C. (in press). Digital Rights Management or Discard Restrictions on Music? DRM, Peer-To-Peer Piracy and the Pricing of Digital Music. *Journal of Marketing.*

Siwek, S. E. (2007). *The True Cost of Sound Recording Piracy to the US Economy*. Institute for Policy Innovation. Retrieved November 03, 2009, from http://ipi.org/IPI%5CIPI Publications.nsf/PublicationLookupFullTextPDF/51CC65A1D4779E408625733E00529174/$File/SoundRecordingPiracy.pdf?OpenElement

Sobel, M. E. (1982). Asymptotic intervals for indirect effects in structural equations models. In S. Leinhart (Ed.), *Sociological methodology* (pp. 290–312). San Francisco: Jossey-

Bass.

Spirtes, P., Richardson, T., Meek, C., Scheines, R., & Glymour, C. (1998). Using path diagrams as a structural equation modeling tool. *Sociological Methods & Research, 27*(2), 182-225.

Stone, B. (2009, January 7). Want to Copy iTunes Music? Go Ahead, Apple Says. *The New York Times*, p B1.

Strauss, A., & Corbin, J. (1998). *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory* (2nd ed.). Thousand Oaks, CA: Sage.

Sweeney, J.C., & Soutar, G.N. (2001). Consumer perceived value: The development of a multiple item scale. *Journal of Retailing, 77*(2), 203-220.

Thomas, A., Donnell, A., & Buboltz, W. C. (2001). The Hong psychological reactance scale: A confirmatory factor analysis. *Measurement and Evaluation in Counseling and Development, 34*, 2-13.

Vaidhyanathan, S. (2003). *Copyrights and Copywrongs: The Rise of Intellectual Property and How it Threatens Creativity*. New York: New York University Press.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User Acceptance of Information Technology: Toward a Unified View. *MIS Quarterly, 27* (3), 425-478.

Wall, D. S. (2005). The Internet as a conduit for criminal activity. In A. Pattavina (Ed.), *Information technology and the criminal justice system* (pp. 78-94). Thousand Oaks, CA: Sage.

Watson, D., & Tellegen, A. (1985). Toward a consensual structure of mood. *Psychological Bulletin, 98*, 219-235.

Woller, K.M., Bublotz, W.C., & Loveland, J.M. (2007). Psychological reactance: examination across age, ethnicity, and gender. *American Journal of Psychology, 120*, 15-24.

Xia, L., Monroe, K.B., & Cox, J.L. (2004). The Price Is Unfair! A Conceptual Framework of Price Fairness Perceptions. *Journal of Marketing, 68*, 1-15.

Yar, M. (2008). The Rhetorics and Myths of Anti-piracy Campaigns: Criminalization, Moral Pedagogy and Capitalist Property Relations in the Classroom. *New Media & Society, 10*(4), 605-623.

Zaichkowsky, J.L. (1985). Measuring the involvement construct. *Journal of Consumer Research, 12*, 341-352.

Zinbarg, R.E., Revelle, W., Yovel, I., & Li, W. (2005). Cronbach's α, Revelle's β, and McDonald's ω_H: Their relations with each other and two alternative conceptualizations of reliability. *Psychometrika, 70*(1), 123-133.

Appendix A

Survey Questions

Price affect Dutch:
Lees ieder begrip en vink het meest toepasselijke antwoord aan. Geef aan in hoeverre jij de beschreven gemoedstoestand met betrekking op de prijs voelt.

geïnteresseerd	geïrriteerd
ontdaan	alert
opgewonden	beschaamd
overstuur	geïnspireerd
sterk	zenuwachtig
schuldig	vastbesloten
angstig	oplettend
vijandig	gespannen
enthousiast	actief
trots	bang

Price affect German:
Lese jeden Begriff und wähle die am besten zutreffende Antwort aus. Gib an in wieweit du den beschriebenen Gemütszustand in Bezug auf den angegeben Preis fühlst:

interessiert	gereizt
bestürzt	wachsam
erregt	beschämt
durcheinander	inspiriert
stark	nervös
schuldig	entschlossen
ängstlich	achtsam
feindselig	angespannt
begeistert	aktiv
stolz	ängstlich

Price fairness Dutch:
Hoe fair is de prijs die Paul per muziek file zou moeten betalen?
De prijs die Paul voor een muziek file zou moeten betalen is een faire prijs.
De consument wordt fair behandeld.

Price fairness German:
Wie fair ist der Preis den Paul für eine Musikdatei zahlen müsste?
Der Preis den Paul für eine Musikdatei bezahlen müsste ist ein fairer Preis.
Der Verbraucher wird fair behandelt.

Perceived value Dutch:
De prijs voor de muziek file is redelijk.
De muziek file biedt een goede waarde voor je geld.
De muziek file is een goed product voor de prijs.
De muziek file te kopen zou verstandig zijn.

Perceived value German:
Der Preis der Musikdatei ist angemessen.
Die Musikdatei bietet einen guten Wert fürs Geld.

Die Musikdatei ist ein gutes Produkt für den Preis.
Die Musikdatei zu kaufen wäre vernünftig.

Pirating Intention Dutch:
Ik keur Paul's gedrag (niet) goed.
Ik ondersteun Paul's gedrag (niet).
Ik denk dat Paul's gedrag het juiste/verkeerde was om te doen.

Pirating Intention German:
Ich billige Pauls Verhalten (nicht).
Ich unterstütze Pauls Verhalten (nicht).
Ich denke, dass Pauls Verhalten das richtige/falsche Verhalten war.

Trait Reactance Dutch:
Ik ben gefrustreerd als ik geen vrije en onafhankelijke beslissing kan nemen.
Het jut me op als iemand me op dingen attent maakt die voor me duidelijk zijn.
Ik word boos als mijn keuzemogelijkheden worden beperkt.
Regels roepen een gevoel van koppigheid in me op.
Ik vind het stimulerend anderen te weerspreken.
Als iets verboden wordt denk ik in het algemeen, "Dat is juist wat ik ga doen."
Ik verzet me tegen pogingen me te beïnvloeden.
Ik word boos wanneer een ander persoon me als voorbeeld wordt gesteld die ik moet volgen.
Als iemand me dwingt iets te doen heb ik zin het tegenovergestelde te doen.
Ik zie advies van anderen als inmenging.
Advies en aanbevelingen geven in het algemeen aanleiding juist het tegengestelde te doen.

Trait Reactance German:
Ich bin frustriert wenn ich keine freien und unabhängigen Entscheidungen treffen kann.
Es reizt mich wenn jemand auf Dinge hinweist die für mich offensichtlich sind.
Ich werde ärgerlich wenn meine Wahlmöglichkeiten beschränkt werden.
Regeln rufen ein Gefühl von Trotz in mir hervor.
Ich finde es anregend anderen zu widersprechen.
Wenn etwas verboten ist denke ich für gewöhnlich: "Das ist genau was ich tun werde."
Ich widerstehe den Versuchen Anderer mich zu beeinflussen.
Ich werde ärgerlich wenn eine andere Person als Vorbild dem ich folgen soll dargestellt wird.
Wenn mich jemand zwingt etwas zu tun kriege ich Lust das Gegenteil zu tun.
Ich betrachte Ratschläge von anderen als Einmischung.
Ratschläge und Empfehlungen veranlassen mich für gewöhnlich dazu das Gegenteil zu tun.

Ethical Beliefs Dutch:
Ik zou me niet schuldig voelen als ik beschermd digital materiaal zou downloaden.
Digitale piraterij is in strijd met mijn principes.
Ik denk dat het downloaden van beschermd digital materiaal immoreel is.

Ethical Beliefs German:
Ich würde mich nicht schuldig fühlen wenn ich geschütztes digitales Material downloaden würde.
Digitale Piraterie widerspricht meinen Prinzipien.
Ich denke, dass das Downloaden von geschütztem digitalem Material unmoralisch ist.

Appendix B
Scenarios

High consumption constraints Dutch:

Paul heeft onlangs een nieuwe song van een nog onbekende muziekgroep op de radio gehoord. Tijdens het zoeken op het internet vindt hij twee mogelijkheden de song down te loaden. Eerst vindt hij een site waar je illegale muziek files kunt downloaden. Paul zoekt naar een andere mogelijkheid en vindt een webwinkel die een nieuw en duurder prijsmodel presenteert. In plaats van een grote deel van de winst aan de *jonge artiesten* te geven krijgt de muziekindustrie een groter aandeel. De song kost 1,29€ in plaats van de gebruikelijke 99 Cent.

Paul beslist de song van de illegale site down te loaden.

High consumption constraints German:

Paul hat kürzlich einen neuen Song einer noch unbekannten Musikgruppe im Radio gehört. Bei der Suche im Internet findet er zwei Möglichkeiten den Song herunterzuladen. Zuerst findet er eine Seite auf der man illegale Musikdateien downloaden kann. Paul sucht nach einer anderen Möglichkeit und findet einen Onlineshop, der ein neues und teureres Preismodell anbietet. Anstatt den Großteil des Gewinns an die noch *jungen Künstler* abzuführen erhält die Musikindustrie einen höheren Anteil. Der Song kostet 1,29€ gegenüber den sonst üblichen 99 Cent.

Paul entscheidet sich dafür den Song von der illegalen Seite zu laden.

Low consumption constraints Dutch:

Paul heeft onlangs een nieuwe song van een nog onbekende muziekgroep op de radio gehoord. Tijdens het zoeken op het internet vindt hij twee mogelijkheden de song down te loaden. Eerst vindt hij een site waar je illegale muziek files kunt downloaden. Paul zoekt naar een andere mogelijkheid en vindt een webwinkel die een nieuw en duurder prijsmodel presenteert. In plaats van een grote deel van de winst aan de muziekindustrie te geven krijgen de *jonge artiesten* een groter aandeel. De song kost 1,29€ in plaats van de gebruikelijke 99 Cent.

Paul beslist de song van de illegale site down te loaden.

Low consumption constraints German:

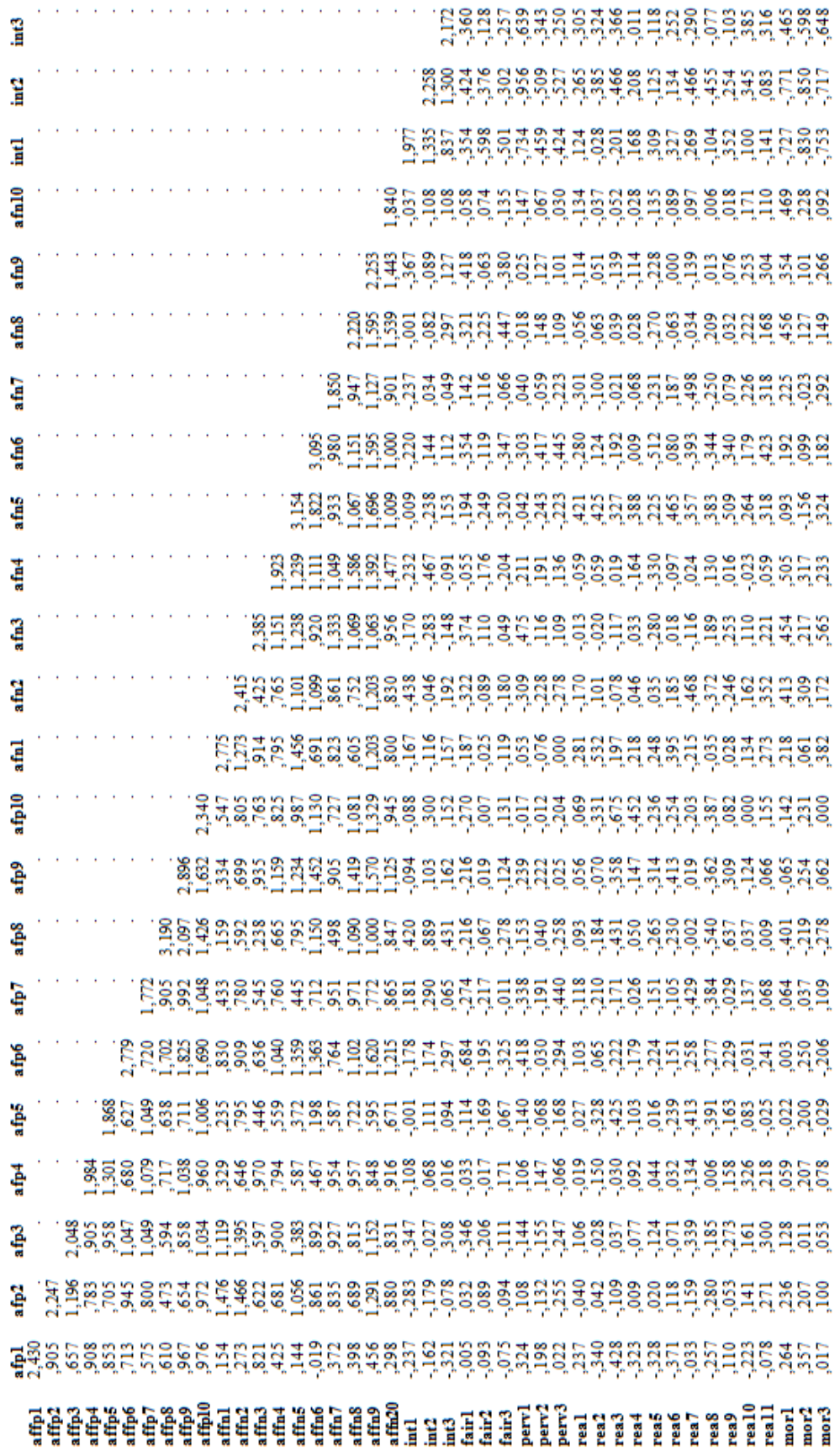
Paul hat kürzlich einen neuen Song einer noch unbekannten Musikgruppe im Radio gehört. Bei der Suche im Internet findet er zwei Möglichkeiten den Song herunterzuladen. Zuerst findet er eine Seite auf der man illegale Musikdateien downloaden kann. Paul sucht nach einer anderen Möglichkeit und findet einen Onlineshop, der ein neues und teureres Preismodell anbietet. Anstatt den Großteil des Gewinns an die Musikindustrie abzuführen erhalten die noch *jungen Künstler* einen höheren Anteil. Der Song kostet 1,29€ gegenüber den sonst üblichen 99 Cent.

Paul entscheidet sich dafür den Song von der illegalen Seite zu laden.

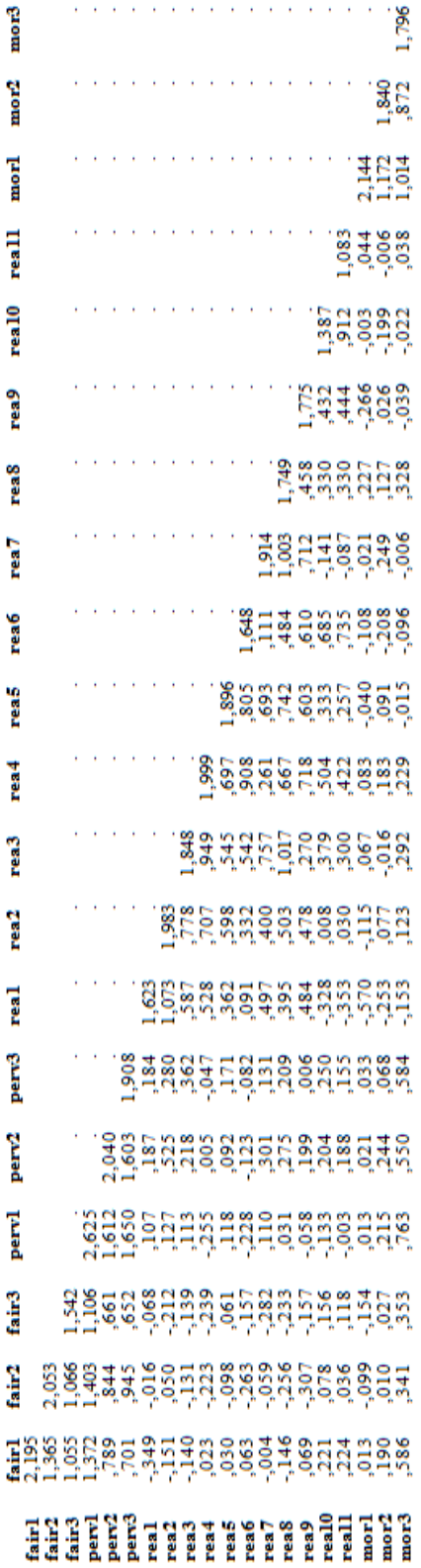
Appendix C: Assessment of Normality

Variable	min	max	skew	c.r.	kurtosis	c.r.
moral03	1,000	6,000	-,124	-,629	-,820	-2,083
moral02	1,000	7,000	,360	1,830	-,697	-1,771
moral01	1,000	7,000	,499	2,535	-,692	-1,758
reac11	1,000	6,000	,633	3,218	,162	,411
reac10	1,000	6,000	,275	1,399	-,606	-1,539
reac09	1,000	7,000	-,306	-1,558	-,557	-1,414
reac08	1,000	7,000	-,046	-,235	-,177	-,451
reac07	1,000	7,000	-,217	-1,105	-,151	-,384
reac06	1,000	7,000	,866	4,400	,544	1,383
reac05	1,000	7,000	,113	,576	-,469	-1,192
reac04	1,000	7,000	,073	,373	-,585	-1,486
reac03	1,000	7,000	-,275	-1,398	-,330	-,838
reac02	1,000	7,000	-,665	-3,381	-,192	-,489
reac01	1,000	7,000	-1,178	-5,988	1,584	4,025
percval04	1,000	7,000	-,267	-1,357	-,590	-1,499
percval03	1,000	7,000	-,086	-,438	-,801	-2,035
percval02	1,000	7,000	-,065	-,331	-,808	-2,053
percval01	1,000	7,000	,068	,343	-1,260	-3,203
fair03	1,000	7,000	,156	,791	-,921	-2,340
fair02	1,000	7,000	,032	,162	-1,186	-3,013
fair01	1,000	7,000	,036	,183	-1,041	-2,645
intent03	1,000	7,000	,189	,962	-,807	-2,051
intent02	1,000	7,000	-,336	-1,706	-,658	-1,673
intent01	1,000	7,000	-,687	-3,491	-,191	-,485
affneg10	1,000	6,000	,796	4,045	-,393	-1,000
affneg09	1,000	6,000	,275	1,398	-1,226	-3,115
affneg08	1,000	6,000	,554	2,818	-,950	-2,415
affneg07	1,000	7,000	,295	1,497	-,835	-2,123
affneg06	1,000	7,000	,320	1,629	-,982	-2,495
affneg05	1,000	6,000	,575	2,922	-,901	-2,289
affneg04	1,000	6,000	,701	3,562	-,648	-1,646
affneg03	1,000	7,000	,133	,675	-1,155	-2,935
affneg02	1,000	7,000	,587	2,985	-,841	-2,137
affneg01	1,000	7,000	,337	1,713	-,953	-2,422
affpos10	1,000	6,000	-,125	-,637	-1,181	-3,000
affpos09	1,000	7,000	-,090	-,456	-1,175	-2,986
affpos08	1,000	7,000	,126	,642	-1,111	-2,823
affpos07	1,000	7,000	,467	2,372	-,796	-2,022
affpos06	1,000	7,000	-,060	-,305	-1,272	-3,233
affpos05	1,000	7,000	,552	2,803	-,602	-1,530
affpos04	1,000	7,000	,228	1,158	-1,000	-2,542
affpos03	1,000	6,000	,032	,165	-1,130	-2,871
affpos02	1,000	7,000	,445	2,262	-,750	-1,906
affpos01	1,000	7,000	,036	,182	-1,159	-2,945
Multivariate					193,489	18,931

Appendix D: Covariance Matrix of the Measurement Model Pt1 (High Constraints)



Appendix D: Covariance Matrix of the Measurement Model Pt2 (High Constraints)



	fair1	fair2	fair3	perv1	perv2	perv3	rea1	rea2	rea3	rea4	rea5	rea6	rea7	rea8	rea9	rea10	rea11	mor1	mor2	mor3
fair1	2,195																			
fair2	1,365	2,053																		
fair3	1,055	1,066	1,542																	
perv1	1,372	1,403	1,106	2,625																
perv2	,789	,844	,661	1,612	2,040															
perv3	,701	,945	,652	1,650	1,603	1,908														
rea1	-,349	-,016	-,068	,107	,187	,184	1,623													
rea2	-,151	,050	-,212	,127	,525	,280	1,073	1,983												
rea3	-,140	-,131	-,139	,113	,218	,362	,587	,778	1,848											
rea4	,023	-,223	-,239	-,255	,005	-,047	,528	,707	,949	1,999										
rea5	,030	-,098	,061	,118	,092	,171	,362	,598	,545	,697	1,896									
rea6	,063	-,263	-,157	-,228	-,123	-,082	,091	,332	,542	,908	,805	1,648								
rea7	-,004	-,059	-,282	,110	,301	,131	,497	,400	,757	,261	,693	,111	1,914							
rea8	-,146	-,256	-,233	,031	,275	,209	,395	,503	1,017	,667	,742	,484	1,003	1,749						
rea9	,069	-,307	-,157	-,058	,199	,006	,484	,478	,270	,718	,603	,610	,712	,458	1,775					
rea10	,221	,078	,156	-,133	,204	,250	-,328	,008	,379	,504	,333	,685	-,141	,330	,432	1,387				
rea11	,224	,036	,118	-,003	,188	,155	-,353	,030	,300	,422	,257	,735	-,087	,330	,444	,912	1,083			
mor1	,013	-,099	-,154	,013	,021	,033	-,570	-,115	,067	,083	-,040	-,108	-,021	,227	-,266	-,003	,044	2,144		
mor2	,190	,010	,027	,215	,244	,068	-,253	,077	-,016	,183	,091	-,208	,249	,127	,026	-,199	-,006	1,172	1,840	
mor3	,586	,341	,353	,763	,550	,584	-,153	,123	,292	,229	-,015	-,096	-,006	,328	-,039	-,022	,038	1,014	,872	1,796

Appendix E: Covariance Matrix of the Measurement Model Pt1 (Low Constraints)

	afp1	afp2	afp3	afp4	afp5	afp6	afp7	afp8	afp9	afp10	afn1	afn2	afn3	afn4	afn5	afn6	afn7	afn8	afn9	afn10	int1	int2	int3
afp1	2,318																						
afp2	,352	2,171																					
afp3	,799	,815	1,901																				
afp4	,922	,632	,777	2,318																			
afp5	,823	,968	1,273	1,580	2,450																		
afp6	,418	1,105	,981	,499	,671	2,923																	
afp7	1,036	,526	1,052	,946	1,377	,898	2,556																
afp8	,388	,906	,610	,681	1,145	,789	,736	2,324															
afp9	,677	,934	,950	,965	,836	1,918	1,085	1,142	3,030														
afp10	,616	,473	,865	,968	1,073	,814	1,330	,711	1,084	2,514													
afn1	-,390	1,210	,420	,020	,467	1,409	,087	,578	,856	,295	2,240												
afn2	-,095	1,159	,522	,378	,522	1,315	,276	,654	,715	,554	1,206	2,194											
afn3	,593	,293	,450	,386	,335	,803	,299	,552	1,010	,500	,391	,208	3,036										
afn4	,020	,607	,323	,740	,596	,730	,343	,774	1,053	,438	,525	,730	1,340	2,183									
afn5	,035	,689	,405	,103	,492	1,084	,114	,346	,665	,270	1,214	1,192	,676	,654	1,622								
afn6	-,234	,752	,653	,072	,554	1,095	,626	,414	,896	,527	1,275	,784	1,050	,667	,892	2,333							
afn7	,413	,545	,293	,201	,335	,870	,466	,750	1,068	,419	,504	,357	2,059	1,182	,730	1,194	2,306						
afn8	,030	1,017	,777	,539	,739	1,363	,765	,973	1,424	,870	1,023	,998	1,371	1,673	,816	1,212	1,340	2,253					
afn9	,458	,958	1,064	,683	,975	1,596	,766	1,074	1,727	1,146	,995	,866	1,774	1,461	1,011	1,198	1,540	2,063	2,948				
afn10	,177	,633	,686	,483	,513	1,074	,682	,604	1,192	,768	,612	,520	1,247	1,472	,551	,914	1,094	1,695	1,794	1,884			
int1	-,501	-,187	-,037	-,632	-,310	-,385	-,209	-,172	-,260	-,484	-,071	,088	-,031	-,039	-,119	-,077	-,080	-,127	-,430	-,275	2,613		
int2	-,439	,005	-,016	-,061	,058	-,295	,037	-,558	-,136	-,276	,022	-,295	-,105	-,290	-,276	,162	-,403	-,069	-,067	-,105	1,578	2,704	
int3	-,023	-,185	,023	,144	,108	-,554	,293	-,468	-,113	,041	-,207	-,054	-,117	-,194	-,162	,153	-,356	-,171	-,239	-,185	,982	1,297	2,847
fair1	1,133	-,001	,552	,746	,766	-,137	,364	,185	,023	,235	-,662	-,164	-,255	-,052	-,211	-,752	-,345	-,251	-,185	-,080	,663	,785	-,288
fair2	1,106	-,024	,668	,822	,562	-,307	,281	-,008	,023	,389	-,796	-,253	-,127	-,079	-,449	-,689	-,451	-,225	-,144	,039	,418	,343	-,041
fair3	,856	,001	,650	1,149	,921	-,249	,444	,332	,023	,265	-,533	-,330	,039	,293	-,357	-,477	-,223	,046	,153	,210	,615	,361	,005
perv1	1,059	-,070	,670	1,126	,706	-,323	,365	,226	,408	,408	-,710	-,147	,222	,225	-,295	-,486	-,035	,060	,179	,117	,685	,452	,270
perv2	,640	-,242	,461	,757	,799	,021	,430	,156	,117	,359	-,222	-,128	,363	,374	,184	-,221	,102	,086	,153	,155	,493	,496	,207
perv3	,622	-,135	,541	,689	,703	,068	,514	,324	-,041	,635	-,311	-,041	,351	,405	,054	-,041	,203	,324	,243	,189	,743	,635	,081
rea1	-,188	-,028	-,110	-,454	-,250	-,064	-,179	,106	-,012	,019	,319	,206	,137	-,068	,141	,356	,168	,179	,053	-,004	,491	,123	,144
rea2	,143	,442	,128	-,028	-,155	,389	,103	,187	,503	-,289	,672	,483	,156	-,008	,278	,586	,133	,303	,308	,189	,378	,093	-,356
rea3	-,167	,050	-,185	-,131	-,189	,189	,153	-,072	-,023	-,311	,207	,514	,005	,207	,351	,279	,207	,225	,158	,104	,045	,203	,005
rea4	,009	-,146	-,224	-,045	-,030	,242	,216	-,564	,031	-,192	-,115	,079	,022	-,049	,038	,176	,238	-,263	-,220	-,306	,158	-,089	,203
rea5	,194	-,483	-,574	-,094	-,142	-,402	-,062	-,646	-,449	-,738	-,604	-,416	-,305	-,505	-,008	-,559	-,255	-,749	-,389	-,540	-,217	,083	-,090
rea6	,285	,040	,147	-,049	,169	,138	,051	-,056	,055	,046	-,100	-,226	,556	,161	,235	,113	,466	,152	,296	,158	-,293	-,120	-,261
rea7	-,069	-,032	,138	-,069	-,050	,401	,012	-,044	-,029	-,089	,224	,279	,200	,190	,357	,189	,038	,306	,245	,216	-,013	,207	-,541
rea8	,231	,222	-,232	-,039	,104	-,036	,218	,288	,191	-,384	,195	,154	-,065	,242	,076	-,149	,246	,153	,160	,163	-,136	-,342	-,405
rea9	,241	-,206	-,359	-,079	-,442	,151	-,157	-,419	,211	-,465	,072	-,052	,669	,111	,062	,505	,579	,206	,343	,210	-,292	,123	-,059
rea10	-,122	,243	-,027	-,108	,108	-,068	,054	-,176	,054	-,162	-,122	-,014	-,041	,014	,081	,095	-,081	,270	,243	,203	-,162	,149	-,203
rea11	,115	-,127	-,200	,034	-,045	,079	,342	-,198	,095	-,157	-,374	-,326	-,057	,128	,019	-,122	,146	,028	,094	,267	-,199	-,055	-,338
mor1	,237	-,030	-,141	,643	-,189	,250	,174	,499	,758	,489	,069	,007	,762	,817	-,051	,162	,789	,733	,350	,382	-,720	-,611	-,486
mor2	,535	,274	-,209	,422	-,185	,184	-,011	,559	,300	,222	-,083	-,059	,452	,452	-,089	-,126	,326	,478	,133	,346	-,671	-,779	-,563
mor3	,450	,357	-,178	,071	,007	,362	-,082	,317	,116	-,086	,311	,186	,786	,523	,251	,216	,584	,529	,452	,536	-,833	-,826	-,676

Appendix E: Covariance Matrix of the Measurement Model Pt2 (Low Constraints)

	fair1	fair2	fair3	perv1	perv2	perv3	rea1	rea2	rea3	rea4	rea5	rea6	rea7	rea8	rea9	rea10	rea11	mor1	mor2	mor3
fair1	2,388																			
fair2	2,032	2,421																		
fair3	1,812	1,841	2,610																	
perv1	1,884	2,034	1,986	2,648																
perv2	1,244	1,125	1,259	1,472	2,015															
perv3	1,095	1,135	1,324	1,595	1,649	2,027														
rea1	-,276	-,190	-,429	-,245	-,280	-,216	1,167													
rea2	-,435	-,351	-,400	-,336	-,413	-,338	,730	2,410												
rea3	-,293	-,486	-,221	-,297	-,180	-,027	,450	,964	1,712											
rea4	-,006	-,358	-,189	-,256	-,243	-,351	,259	,119	,514	2,323										
rea5	,314	-,028	,008	-,205	-,208	-,365	-,094	,144	,306	,759	2,248									
rea6	,088	-,068	-,051	-,151	-,078	,014	-,347	-,014	,059	,516	,527	1,572								
rea7	-,166	-,168	-,188	-,294	-,106	-,068	,020	,034	,243	-,219	,182	,263	1,288							
rea8	-,036	-,224	-,096	-,328	-,326	-,297	,048	,479	,797	,368	,439	,237	,145	1,936						
rea9	-,465	-,329	-,438	-,276	-,316	-,338	,389	,899	,423	1,074	,601	,592	,423	,563	2,740					
rea10	,041	-,027	-,122	-,284	-,392	-,378	-,014	,324	,149	,189	,473	,514	,095	,392	,541	1,541				
rea11	,136	,005	,064	-,210	-,139	-,189	-,502	-,147	,054	,251	,606	,539	,050	,572	,242	,635	1,434			
mor1	-,024	,096	,529	,585	,245	,514	-,383	-,103	-,284	-,477	-,735	,049	-,297	-,230	-,206	-,297	,030	2,875		
mor2	,608	,656	,862	,801	,578	,581	-,165	,079	-,369	-,706	-,457	-,111	,017	-,125	-,072	,014	,252	1,406	2,215	
mor3	,718	,528	,677	,502	,515	,581	-,131	,077	-,014	-,124	-,009	,275	,021	,115	,269	,284	,218	,424	,939	1,752