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Abstract

This study employs a vignette experiment to inquire, which features of online "piracy" make it ethically discernible from a traditional theft. This question is pertinent since the social norm concerning traditional theft is starkly different from the evidence on ethical evaluation of online "piracy". We specifically distinguish between contextual features of theft, such as for example the physical loss of an item, breach of protection, availability of alternatives, emotional proximity to the victim of theft, etc. We find that some of these dimensions have more weight in ethical judgment, but there are no clear differences between online and traditional theft which could explain discrepancy in the frequency of commitment.

Keywords:
vignette experiment, illegal downloading, digital piracy, illegal download, downloading behaviour, P2P network

JEL:
A13, C93, D12

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1 Introduction

Copyright holders often portray on-line copyright infringement as an act of stealing. For example, the website of the Recording Industry Association of America says that "piracy" is "too benign of a term" [for "music theft"][1]. On the other hand, studies such as (Siegfried, 2004) show that most Internet users have little ethical concerns about unauthorized downloading. As a matter of fact, mere popularity of file sharing services seems to suggest that either millions of people are morally rotten or strongly object to equating online "piracy" with traditional theft. Indeed, on the face of it, there seem to be quite a few important differences between the two. For example, physical theft deprives the victim of the object, i.e. all three of the ownership properties:*usus, abusus* and *fructus*. Digital "piracy" may only destroy (some of the) the proceeds from sale of content, i.e. *fructus*. As another example, digital "pirates" often imply that file sharing is justified when the legal copy is prohibitively expensive or not available at all. Which difference between physical theft and online piracy makes the difference in ethical evaluation?

To address this research question we propose a vignette experiment. We envisage a continuum reaching from the (unambiguously evil) act of physical theft of a material object to the (seemingly benign) act of online "piracy" involving the same good. We distinguish dimensions potentially relevant for moral evaluation of individuals' actions. Eventually, we construct stories of a behavior involving either physical theft or online "piracy" and ask responders to evaluate ethics of these actions. The construction of the stories allows to single out the changes along the respective dimensions potentially relevant to the decision. This way we hope to pin down the crucial features of the act of "stealing" that make it ethically unacceptable.

Additionally, it would appear instructive to distinguish between individual, ethical concerns and norms shared by our responders' social environment. Indeed, some aspects of digital piracy may be seen differently through these lenses; for example, unauthorized sharing of content may be judged as ethically questionable despite the (injunctive) social norm being relatively lax. Furthermore, several studies such as Tang and Farn (2005) clearly indicate that others' opinions have an independent effect on intention to engage into copyright infringement.[2]

Unauthorized sharing and downloading is clearly a controversial issue, which potentially undermines quality of the data – subjects may be reluctant to reveal their true views. More generally, satisficing, i.e. insufficiently careful processing of the information provided, is always an issue in vignette studies, (Stolte, 1994), as well as in most survey studies Krosnick and Presser (2010). A natural remedy is to offer rewards–a participation fee, preferably contingent on 'quality' of response. Unfortunately, the latter is very hard to establish in the case of individual ethical norms, because the "true values" are by their very nature unobservable. This is no longer true with respect to the social norms – an innovative method, based on coordination games has been recently proposed by Krupka and Weber (2013).

These considerations define our design. We randomly allocate each responder to one of three groups. In the Ethical Judgment Treatment (EJT) responders are asked to report their own ethical view. In the Social Norm Treatment (SNT) they should reveal what they believe is the shared, interpersonal norm in their environment. In these two treatments they receive a flat fee. Conversely, in the Incentivized Social Norm Treatment (ISNT) we implement Krupka and Weber (2013) mechanism. More specifically, we encourage responders to provide judgments on the social norm that they believe others give as well

[1] In fact, piracy*per se* is typically defined as "an act of robbery or criminal violence at sea", which makes this statement dubious.

[2] For a broader discussion of the importance of various social norms in enforcement of copyright see **?**.

(i.e. presumably those consistent with the prevailing social norm). If it turns out that the 'I' in ISNT makes a large difference, we will know we should be sceptical about the truthfulness of responses under EJT as well.

This study contributes to the literature in several ways. First, we provide the first attempt - to our best knowledge - to disentangle the overall judgment of online "piracy" to particular dimensions of the decision making process. While vignette studies are frequent with reference to controversial behaviors, we are not aware of a study that would be able to compare explicitly traditional theft to online "piracy" along relevant dimensions of decision making. Some studies - e.g. Al-Rafee and Cronan (2006) and subsequent - demonstrate that one's attitude towards online "piracy" relies heavily on what one believes other think of it. However, such studies analyzed evaluation of online "piracy" as a whole, without identifying particular dimensions which make it similar to (and/or different from) traditional theft.

Second, our key finding is that there is no single feature that disentangles the evil from the benign. Among the dimensions we have initially considered, only availability of a legal alternative turns out to be irrelevant – all the others work in the expected direction, "physicality" being identified as the strongest one. This implies that the relatively more lax ethical judgment of online "piracy" is related to the objective characteristics of this act and not that much to a different ethical norm.

Finally, we provide evidence that there is little difference between social norm and individual ethical judgment in this particular case. Opposite to the case of other controversial activities, in the case of online "piracy" social and individual norms largely agree as far as the dimensions we have identified are concerned, except that the social norm is slightly more lax than individual judgment. Making this result publicly known in an awareness campaign can influence the latter – i.e. bring the social norm closer to people's ethical intuitions.

The paper is structured as follows. First, we report selected earlier studies, showing how they helped to shape our design. Second, we describe method and design. Finally, we move to our data and results. The paper is concluded by the recommendations concerning the design of anti copyright infringement policies.

2 Literature review

Vignette experiments are are often used when eliciting justification for the moral judgment, especially with reference to controversial choices, see e.g. Steinert and Lepping (2009) on violence in patient-doctor relationship, Abbey (2002) on alcohol related sexual abuse or Rettinger et al. (2004) on classroom cheating. Interviewees are asked to evaluate hypothetical yet realistic situations, which typically permits the researcher to study cognitive aspects of social interaction, cfr. Schoenberg and Ravdal (2000). They have been seldom applied to online "piracy", however. Williams et al. (2010) review the use of this method in analyzing the attitudes and behaviors of the illegal downloaders, but they predominantly considered the case of software piracy Lin et al. (1999); Higgins et al. (2005).

Studies using vignette experiments and concerning cultural goods are rare. One of the notable exceptions - Wingrove et al. (2011) - analyses the case for online music "piracy" with students as responders. They find differentiated view of downloading/sharing files and shoplifting but can link it to the threat of punishment and obligation to obey the law rather than "soft" measures such as respect for the music industry. Also in a vignette study, Altschuller and Benbunan-Fich (2009) find that a much larger number of responders find it acceptable to share illegally downloaded music (e.g. playing at the party) than downloading itself.

Given these - and other similar - findings, a number of researchers have argued that there is something inherently different about downloading and that downloaders perceive their behavior to be similar to recording a song from the radio, rather then shoplifting a CD from a store, Easley (2005). In fact, the act of online "piracy" is not necessarily related to the willingness to comitt theft. While Hill (2007) argues downloading and shoplifting are unrelated, Robertson et al. (2012) argues that downloaders are more likely to steal a CD in a store if risk of getting caught was low. If that indeed was the general behavioral pattern, the finding of Lysonski and Durvasula (2008) that individuals are more likely to report downloading than stealing reflects a more stringent social norm and threat of punishment on traditional theft than on online "piracy".

The finding that social norm about piracy is more lax than individual ethical judgment can be found in the literature. Bateman et al. (2013) distinguish between ideal ethics (people generally believe online "piracy" is evil) and formal ethics (people generally accept that online "piracy" is frequent) and argue that because of this disparity, negative moral judgment matters little for actual behavior. They argue as well that formal ethics reflects the propensity to use social norms as guidance for own ethical judgment. This finding is similar to an earlier study on software "piracy": Moores and Chang (2006) analyze the role of factors influencing the propensity to "pirate" in ethical judgment of this act. They find that we may be more willing to approve of "piracy" if ambiguity sneaks into the judgment process (e.g. decision is made under time pressure or the negative consequences of the "piracy" are not fully understood).

Both these studies are interesting, because they serve as examples of how is "piracy" treated not only by the subjects but also by the researchers. A large body of studies - e.g. Gupta et al. (2004); Goles et al. (2008); Wang and McClung (2012); Liang and Phau (2012); Phau et al. (2013) - identifies the confounding factors justifying the decision to "pirate", in order to seek justification of the lax ethical judgment in external conditions. This justification is sought - following the theory of moral obligation by Schwartz and Tessler (1972) and theory of planned behavior by Ajzen (1991) - in inability to adequately process the circumstances under which decision is made or in external conditions, such as the beliefs about the moral judgment of the others. On the other hand, studies like Altschuller and Benbunan-Fich (2009); Robertson et al. (2012) focus on how different "pirates" are from other consumers. They show higher preference for risky behavior, less respect for the rules, less fear of being caught, etc.

This dichotomous view of the act of online "piracy" - either *via* rottenness of "pirates" or as a result of action justifiable by external consequences - is both interesting and well nested in the literature. Notwithstanding, it overlooks the fact that "piracy" is not homogeneous. In fact, these are the particular features of the act "piracy" that make this action illegal in some countries and legal in others. By singling them out, we contribute to the literature by providing evidence on the role of the features of the act of "piracy" itself, rather than the role of the confounding influence and individual traits of the "pirates".

3 Method

This section discusses the experimental design and the survey structure. Essentially, as discussed earlier, the survey is a philosophical experiment, where responders are asked to provide an ethical judgment of the actions described in a number of hypothetical stories. We describe methodology in three substantive parts. First, we discuss survey design. We further move to detailed description of treatments and finally the responders.

3.1 Survey design

During the survey the responders are asked to read several short stories describing a recent behavior of a hypothetical colleague, Johnny. The behavior is in principle controversial, but the description of each action is deprived of any judgment statements. The only exception from this rule is the introduction to the survey, in which responders are informed that Johnny has some doubts about what he has done and asks for the responder's ethical judgment. More specifically, the scale of judgment ranged from totally unacceptable (1) to fully acceptable (4). Each of Johnny's actions involved obtaining access to the same cultural good - a whole season of a tv series. Each of the stories describes access that is unauthorized although not necessarily illegal (for example, it is legal in Poland to download files, while it is illegal to share).

We defined six dimensions that could be relevant for ethical evaluation. First, following the definition of a crime, we consider the **loss** factor. We distinguish explicitly between the deeds in effect of which real loss to anybody takes place. For example, if Johnny steals a DVD from a colleague, the colleague incurs a loss. On the other hand, when Johnny copies a file from a colleague, no loss is incurred *by the colleague*. Thus, we only invoke loss in a narrow sense (rather than possible revenue loss on part of the copyright holder etc.).

Second, following the rules for the severity of punishment, we tackle the issue of availability of the alternatives to the action chosen by Johnny. Our variable explicitly indicates whether there existed a legal and feasible (i.e. cheap) **alternative** at the moment of committing the deed. This could take the form of a pay-what-you-want sale or the series being available as a magazine add-on. Third, in a similar spirit, we invoke whether the deed concerned a **peer** (e.g. a colleague) or the original owner was a major company or a publisher. For one, this dimension refers to a proportionality criterion in setting punishments - harm by individual to another individual is relatively smaller (by the virtue of marginal value) than an identical harm by an individual to a state or a large firm. Fourth, again considering potential attenuating circumstances, we explicitly tackle the **breach of protection** measures. This may involve for example opening a backpack (from which a DVD is lifted) or - in a digital context - cracking DRM.

Fifth is the **physicality** of the deed, i.e. whether or not the act involved moving a material object. Typically traditional theft will involve physical presence, whereas "piracy" will not. The reason why this dimension was considered refers no longer to the way ethical norms are established but rather to the ethical doubts of modernity. It is often raised that communication technologies involve behaviors substantially different from traditional means of communication, e.g. hate speech in the Internet forums or drones.

The final dimension possibly relevant for ethical evaluation concerns one dimension of the digital "piracy" that is illegal in most countries of the world, i.e. **sharing**. On the one hand, not only it is illegal, but also it allows the claims of damage on civil grounds. On the other hand, in many social networks users who contribute to the community by posting files enjoy respect and approval (as opposed to users who only benefit from downloading files). In this particular case, legal norm and social norm are in stark contrast (at least between some groups of users).

It may be noted that some of our dimensions (loss, peer, sharing) pertain to the *consequences* of the action, whereas others (physicality, protection) focus on the nature of the deed itself. This corresponds to the fact that both *teleological* and *deontological* evaluations are believed to play a role in ethical decision making Hunt and Vitell (1986) Given these six dimensions potentially shaping the ethical evaluation of individual's actions, we have constructed the hypothetical stories.

The structure of the stories about deeds reflects realistic and policy relevant situations faced by most consumers interested in the consumption of the cultural goods. The stories

have been constructed by switching particular factors on and off, possibly one at a time, thus allowing to identify how these dimensions affect the judgment. For example, in one of the stories Johnny borrows a DVD from a colleague, *cracks DRM protection* and shares the files on the Internet, whereas in another story no DRM protection is mentioned, so the readers have no reasons to believe that Johnny actually had to crack any DRM[3].

We have made every effort possible to make sure that the stories do not differ on dimensions other than the six relevant for this study. Not only is the consumption good standardized across stories, but also - whenever possible - exact same wording is used. Universally across the survey all emotionally loaded phrases were avoided (e.g. stealing, pirate, etc.), to let responders feel free to express their own opinion. While inevitably changes in wording could have made a difference, all treatment groups received the same set of stories and questions, which implies that such potential influence is orthogonal to treatments (although it could still be relevant for our estimate of the impact of any specific dimension).

Given the number of dimensions, even after the reduction of irrelevant or infeasible combinations of the dimensions, we reached a total of 18 stories. Given numerous studies demonstrating that large number of questions per screen reduces the attention of the responders and leads to a number of quality issues (e.g. satisficing or fatigue), e.g. Stolte (1994), the questions needed to be split between screens. We made sure that questions on the same screen were similar in terms of content, while the differences across the dimensions were emphasized graphically, by using bold face or underlining. The order of the screens was randomized across responders, to avoid order effects. Table 1 contains the dimensions for each of the included stories, as well as their short descriptions, while Tables 2 through 6 present the constructed screens, showing those dimensions only, on which the stories within each screen differed, together with average ratings of the stories.

[3]Description of the stories, as presented to the responders, is provided in the Appendix.

Table 1: Stories used in the vignette experiment

No.	Story	Loss	Alternative	Peer	Physical	Protection	Sharing
		Screen A					
1	Files copied, owner unaware	NO	NO	YES	NO	NO	NO
2	Steal unused DVD from a colleague	NO	NO	YES	YES	NO	NO
3	Colleague would lend, but steal nonetheless	YES	YES	YES	YES	NO	NO
4	Steal one-time access code	YES	NO	YES	NO	YES	NO
		Screen B					
5	Buy DVD to share on-line	NO	NO	NO	NO	NO	YES
6	Buy DVD to share on-line, crack DRM	NO	NO	NO	NO	YES	YES
7	Borrow DVD to share on-line	NO	NO	YES	NO	NO	YES
8	Borrow DVD to share on-line, crack DRM	NO	NO	YES	NO	YES	YES
		Screen C					
9	Download, niche production	NO	NO	YES	NO	NO	NO
10	Download, big label	NO	NO	NO	NO	NO	NO
11	Download from P2P**, sharing blocked	NO	NO	NO	NO	NO	NO
12	Download from P2P**, with sharing	NO	NO	NO	NO	NO	YES
13	Download despite available as add-on for a magazine	NO	YES	NO	NO	NO	
		Screen D					
14	Steal from a store	YES	NO	NO	YES	NO	NO
15	Steal from a colleague	YES	NO	YES	YES	YES	NO
		Screen E					
16	Download instead of PWYW*, niche	NO	YES	YES	NO	NO	NO
17	Download from P2P**, sharing, instead of PWYW*, niche	NO	YES	YES	NO	NO	YES
18	Download from P2P**, no sharing, instead of PWYW*, niche	NO	YES	YES	NO	NO	NO

Note: In each case the value of 1 means that this dimension is identified in Johnny's deed. Detailed stories in the Appendix. Screen order was randomized across responders.

* denotes pay-what-you-want. In each story the same cultural product is described. Responders were informed about the meaning of PWYW.

** P2P denotes peer-to-peer networks (e.g. Torrents). Responders were informed about the meaning of P2P.

In organizing the questions between the screens we intended to provide respondents with the least grounds for satisficing (Stolte, 1994). For example, Screen A focused in all stories on a tv series that Johnny got from a friend (fixing the source, thus also fixing the victim) and one by one we switched on the dimensions of loss, protection breach and physicality of the act, see Table 2. Clearly, not all combinations of these three dimensions are equally interesting and/or policy relevant. Consequently, we have narrowed the number of analyzed cases from eight to four, singling out each of the interesting dimensions. The values in the last column indicate that story 1, involving no loss, no physical action and no breach of protection measures received much higher rating than the other three.

Table 2: Screen A

Johnny got the series from a friend ...

No.	...	Loss	Physical	Protection	Rating
1	... by unauthorized copying	NO	NO	NO	2.75
2	... by stealing a duplicate DVD	NO	YES	NO	1.08
3	... by stealing (could've borrowed)	YES	YES	NO	1.26
4	... by stealing an access code	YES	NO	YES	1.17

Similarly, on Screen B, responders were to compare in fact only two dimensions: peer and protection. With the two dimensions, we provided four combinations, allowing to single out each of two dimensions, see Table 3. Ratings seem to be affected by both variables considered here. Screen C, in turn, puts together the combination of peer, availability of alternatives and sharing, see Table 4. The latter dimension could in principle work in either direction. Internet users tend to be grateful to those who upload and/or share files, because it is their effort that enables costless consumption. On the other hand, as we emphasized earlier, this is the delineation of legality and thus found previous studies Robertson et al. (2012) to be an important factor.

Table 3: Screen B

Johnny uploaded the series ...

No.	...	Peer	Protection	Rating
5	... he had bought	NO	NO	2.54
6	... he had bought and cracked	NO	YES	2.17
7	... he had borrowed	YES	NO	2.17
8	... he had borrowed and cracked	YES	YES	1.89

Table 4: Screen C

Johnny downloaded the series ...

No.	...	Peer	Alternative	Sharing	Rating
9	... made by a friend	YES	NO	NO	2.66
10	[baseline]	NO	NO	NO	3.05
11	... and shared it	NO	NO	YES	2.69
12	... and did not share it	NO	NO	NO	2.80
13	... although legal version cheap	NO	YES	NO	2.91

Table 5 shows that the conventional theft is universally condemned, no matter who the victim was. On screen E finally, sharing seemed to lower the rating slightly 6.

After completing the five screens with survey questions the responders were also asked a (small) number of general questions. These additional variables include age, gender

Table 5: Screen D

Johnny stole the DVD from ...

No.	...	Peer	Rating
14	... the shop	NO	1.09
15	... a friend	YES	1.07

Table 6: Screen E

Johnny downloaded the series from the Internet ...

No.	...	Sharing	Rating
16	... using a hosting service	YES	2.55
17	... using P2P, with sharing	NO	2.08
18	... using P2P, w/o sharing	YES	2.57

and educational attainment (including academic major); we also asked a few questions concerning patterns of behavior on the Internet. We were particularly interested to identify the so-called *heavy users*, who often obtain content from the Internet. This group, being relatively more savvy about the alternative sources of content as well as potential drawbacks of content obtained from unauthorized sources, is likely to demonstrate less prudery in ethical judgment. Comparing heavy users to the rest of the sample could help test the hypothesis if exposure to (or experience of) digital "piracy" lowers the ethical standards applied to actions on-line, relative to other actions. To identify heavy users we have inquired

- if they acquired content on-line (often, occasionally, seldom, never),
- from various sources (paid authorized, paid unauthorized, unpaid)
- or if they share content on-line (as earlier) with friends or with the on-line community at large.

We classify as heavy users those responders who declare to have downloaded and/or shared content often. In addition, this question helps to evaluate the structure of our subject pool. Namely, if majority of responders declared frequent sharing of content on-line, one would need to be cautious about the external validity of this study, as majority of studies finds that only 1 out of 10 users also contribute at least occasionally to on-line communities[4].

Before the survey was conducted, it was tested on a smaller sample of responders. The test survey was a personally assisted interview, with special emphasis on whether stories are clear and understandable to the responders. In addition, the survey allowed the participants to place comments both with reference to the questions and to the survey itself. We reviewed carefully these comments[5] and while they often comprised additional comments concerning the deeds of Johnny, they hardly ever pointed to any ambiguity or lack of clarity in questions and/or stories.

3.2 Treatments

We randomly split the pool into three equally numerous groups, making sure that proportion of females is kept constant. The first group was asked about their individual ethical

[4]NN Group, http://www.nngroup.com/articles/participation-inequality. This is in general low for online activity. For online news media this is approximately 37%, see *Understanding the Participatory News Consumer*, http://www.journalism.org

[5]Detailed log available upon request.

judgment of the presented stories (EJT). The second group was asked about their belief of the social norm concerning the presented situations (SNT). Responders were informed that six responders would be selected at random to receive 100 PLN (ca 30 USD) each and indeed we later allocated four of the six prizes among these two-thirds of our responders.

The remaining one-third of the responders faced the same task as SNT, except that they were incentivized to give truthful answers, using the mechanism of Krupka and Weber (2013). In fact, before the responders were shown any of the stories, they were informed that after the experiment we would pick one story at random. Responders who give the judgment pertaining to this story would be eligible to participate in the drawing of the prizes. The introduction to the survey gave examples illustrating how exactly the award scheme works. We have allocated the remaining two prizes in this way, so that average remuneration was expected to be identical in each treatment, as long as response rates did not differ across treatments.

As has been identified in a number of studies, in vignette experiments responders often refer to what they believe to be the social norm when asked about their own ethical judgment Schoenberg and Ravdal (2000). Adopting Krupka and Weber (2013) in the ISNT, by comparison with SNT, allows to identify the inaccuracy of eliciting the true ethical judgment due to a certain extent of carelessness likely to occur in survey studies. In addition, splitting the sample between EJT and SNT will allow to provide a lower bound estimate on the difference between individual judgment and social norm. Should we find no difference between EJT and (I)SNT, the argument formulated by Schoenberg and Ravdal (2000) will continue to hold. Should we find no difference between SNT and ISNT, the argument that satisfising was at play will be dismissed. Thus, eventual difference between EJT and ISNT is a lower bound estimate on the difference between individual ethical judgment and social norm, while differences between ISNT and SNT would be informative of the extent of satisfising exhibited by the responders.

3.3 Responders

The survey was conducted on-line, the responders being invited from the experimental subject pool at the Faculty of Economic Sciences, University of Warsaw. The response rate reached on average 27% and was slightly higher for females than males but did not differ across treatments, see Table 7; drop-outs were negligible. This was important because, as discussed earlier, the incentives differed across treatments. Although the respondents were not aware of the difference (i.e. they did not know about the alternative invitations), differences in completion rates could suggest that some extent of non-random sample selection was involved.

Table 7: Response rate by gender and treatment.

	Male	Female
Ethical judgment	27%	32%
Social Norms	23%	28%
Incentivized Social Norms	24%	29%

The member of the subject pool and hence also our responders are predominantly of students or former students; altogether only one person from the sample of 338 reported never having studied, which implies that the age structure of our sample is not representative of the population at large. The average age in the sample is around 23.7 years. There is a slight off-balance between the genders of the participants, partly due do to higher response rate among women (there are 204 female respondents and 134 males). In addition,

being students or graduates of tertiary education institution, our responders were better educated than an average Pole. On the other hand, currently approximately 50% of high school graduates enrolls in tertiary education. Additionally, Internet users also tend to be younger and much better educated than general population Cole (2013). Thus, while the subject pool is clearly not representative of the population at large, it gives a relatively good idea of a typical Internet user in Poland.

4 Estimation results

Our sample contains ratings of 18 stories by 338 respondents. After accounting for a few missing observations, we reach a sample of 6 057. As discussed earlier, the rating is on the scale of 1 to 4 (totally unacceptable to fully acceptable). We thus employ ordered logit with standard errors clustered at individuals. We discuss the baseline results first. We test robustness of these findings by removing some outliers–both atypical stories and responders. Then, we look for differences across treatments and Internet user types.

4.1 Baseline results

Our baseline regression is reported as Model I in Table 8. Individual ethical judgment is more restrictive than the social norm, but there seems to be no difference between the social norms declared with vs. without incentives. The distinction between ethical and social norms may grow in importance in near future given the industry-led attempts to curb piracy using legal means. Indeed, enforcement is a defining feature of a social norm. Should stringent anti-piracy regulations be passed, the supposition that the society disapproves of copyright infringement could be reinforced. On the other hand, studies such as Svensson and Larsson (2012) suggest that this effect is not likely to be immediate. As for individual ethical concerns, the effect is much more ambiguous. Several studies find that threat of punishment may often actually crowd out intrinsic motivation, Gneezy and Rustichini (2000). Thus it may well be that as litigations continue, divergence between ethical and social norms will deepen.

With reference to the dimensions, the first thing to notice is that–against the conventional wisdom–availability of alternatives is unimportant for the judgment of physical theft and online piracy[6]. One interpretation is that low price of the legal version signals that the product was cheap to develop or that it is of low quality. Further, not paying a small price involves little harm in terms of lost revenue.With this important exception, all of the dimensions are statistically significant and have the expected signs, "physicality" exerting the strongest influence, followed by "loss". The coefficient for sharing, which, as discussed before, is a somewhat ambiguous dimension, is also negative but lower than others in absolute value.

As mentioned before, it is instructive to verify sensitivity of these results to inclusion of atypical cases. Among our stories there were two involving traditional theft, which received uniformly low ratings. Both deeds involved stealing a DVD from a friend and this was condemned almost unanimously. These two stories introduce almost no variation to the sample, but may drive some of the results. To see if these stories could in fact affect the overall findings, we have estimated the model without them (column II in Table 8). The results remain unaffected.

[6]When story number 3 (Johnny could have waited to borrow, but stole instead) is excluded, this dimension gets an expected negative sign, but is statistically significant in only some of the specifications. Point estimators on other dimensions are unaffected by the exclusion of story number 3.

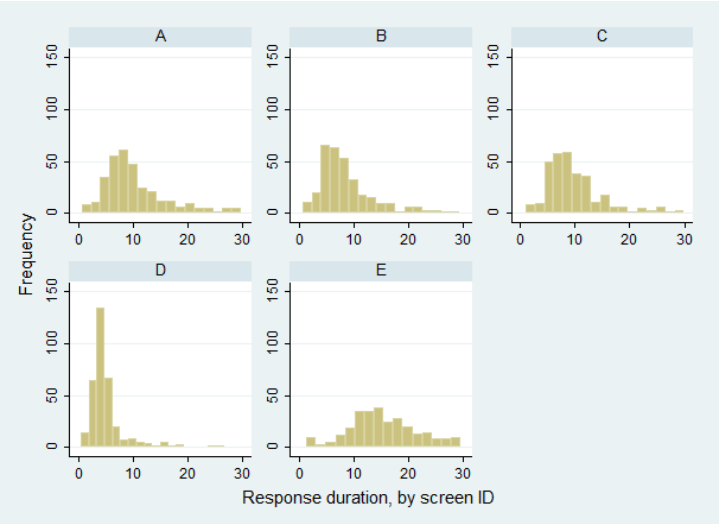

Figure 1: Response time (in seconds), average per question on screens A-E.

Table 8: Determinants of rating: ordered logit

	I	II	III	IV
Treatments	Ethical Judgment as base			
Social Norms	0.554**	0.537**	0.488**	0.487**
	(3.76)	(3.61)	(2.78)	(2.76)
Incentivized Social Norms	0.637**	0.653**	0.432**	0.437**
	(4.47)	(4.53)	(2.65)	(2.66)
Dimensions				
loss	-1.667**	-1.578**	-1.655**	-1.605**
	(14.66)	(10.72)	(7.58)	(6.77)
alternative	0.053	0.051	0.066	0.067
	(0.89)	(0.85)	(0.68)	(0.70)
peer	-0.728**	-0.763**	-0.831**	-0.845**
	(15.89)	(15.45)	(9.05)	(9.05)
physical	-3.055**	-3.021**	-3.195**	-3.168**
	(22.50)	(20.76)	(16.28)	(15.73)
protection	-0.967**	-1.028**	-1.117**	-1.145**
	(15.43)	(14.97)	(7.58)	(7.60)
sharing	-0.608**	-0.595**	-0.581**	-0.575**
	(8.92)	(8.60)	(6.07)	(6.00)
no. of observations	6,057	5,385	2,647	2,589
no. of individuals	338	308	308	308

Note: acceptability rating as dependant variable in all models (1-totally unacceptable, 4-fully acceptable).
* $p < 0.05$; ** $p < 0.01$; z statistics in parentheses.
(I) is the general regression; (II) without questions 14 and 15; (III) only answers above 10 seconds; (IV) Exclusions specified in II and III together.
All regressions include control variables for gender, age, type of studies, duration of filling the survey and the screen number.

We have also verified how robust our results were to a number of issues typical for the online surveys. There is a possibility that some of the respondents decided to fill in the questionnaire as quick as possible in order to claim the reward. The second regression controls for this potential problem by excluding the assessments that were given in ten or less seconds, see Figure 1. In fact, while typically responders took reasonable amount of time to read and comprehend the question, there are few cases of indviduals who needed on average less than 10 seconds to read the question and choose the answer. Such swift

answers may be considered doubtful, so for the sake of reliability we repeat the regressions without these observations. Excluding those observations (column III in Table 8) does not change the results.

In column IV of Table 8 we combined both exclusions (short duration of response time and two questions). This has reduced our sample size by half, but neither the coefficients, nor their significance have been affected in major way. This suggests that our findings are fairly robust. It is possible that interactions between the factors will account for some of the dependent variables variation. In Table 9 we discuss these additional specifications.

4.2 Treatment effects

While previous results showed there is only a small difference between mean ratings given under various conditions, there could still be important discrepancies for some or all dimensions. We thus run the regression separately for each of the three treatments, see Table 9. We see that the coefficients change only slightly and the effects remain significant, despite drastically small sample sizes.

Table 9: Determinants of rating for different treatments and groups.

	Ethical Judgment	Social Norms	Incentivized Social Norms	Heavy users
Treatments	Ethical Judgment as base			
Social Norms				0.470*
				(2.31)
Incentivized Social Norms				0.681**
				(3.53)
dimensions				
loss	-1.806**	-1.451**	-1.872**	-1.695**
	(8.09)	(10.01)	(7.75)	(10.44)
alternative	0.061	0.101	0.001	0.117
	(0.52)	(0.01)	(1.02)	(1.19)
peer	-0.717**	-0.722**	-0.774**	-0.834**
	(9.84)	(8.73)	(8.86)	(11.94)
physical	-3.161**	-2.889**	-3.294**	-3.139**
	(13.30)	(14.71)	(12.42)	(15.39)
protection	-0.958**	-0.928**	-1.049**	-0.965**
	(8.74)	(8.89)	(8.91)	(11.05)
sharing	-0.738**	-0.501**	-0.623**	-0.604**
	(6.42)	(4.82)	(4.28)	(5.96)
no. of observations	2,183	1,923	1,951	2,759
no. of individuals	122	107	109	154

Note: Note: acceptability rating as dependant variable in all models (1-totally unacceptable, 4-fully acceptable).
* $p < 0.05$; ** $p < 0.01$; z statistics in parentheses.
All regressions include control variables for gender, age, type of studies, duration of filling the survey and the screen number. These models have been also estimated on a restricted sample, recall Table 8. Results are unaffected, see Table 10 in the Appendix.

Finally, we analyze explicitly the so-called heavy users. It is often emphasized in the public debate, that those, who commit deeds like Johnny in our stories are less likely to be critical of such actions by the others. In order words, it is a reflection of a contention that "if I do it, it cannot be such a bad thing to do". We identify the heavy users group based on their self-reported Internet behavior patterns. This group consists of responders who acknowledged (on a scale from sometimes to often) often performing any of the following: sharing files with everyone, sharing files with their friends, downloading through authorized channels, paying and downloading through unauthorized channels, and finally not paying

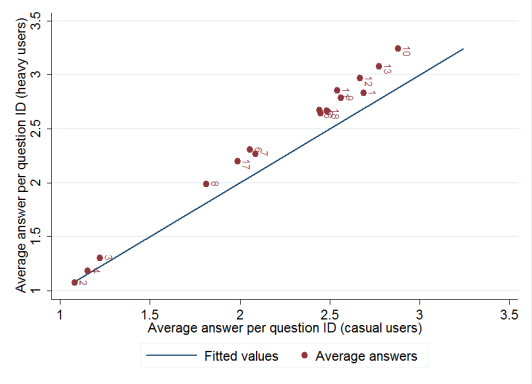

Figure 2: Average rating between casual users and heavy users.

and downloading through unauthorized channels. The heavy users are therefore defined as a group of people certainly proficient with acquiring cultural content from the Internet. These are not, by construct, individuals more likely to accept online "piracy", but those, who simply acquire content in an electronic way. In fact, the ethical judgment of the heavy users is not at all different from the population at large, while they are only about a half of our responders pool.

The results are not a consequence of one particular question, nor of one particular dimension, Figure 2. Whether we consider heavy users or casual users, the average rating of particular questions are similar. In fact, there is less acceptance among heavy users than among the casual ones for stories in screen C, where we explicitly approach the problem of sharing as well as who has limits on *fructus* - peers or corporations. However, these differences are by no means large.

The survey's design allows for an in-depth analysis of some of the factors frequently mentioned in public debate. For example, although some aspects of internet piracy may be generally condemned, there seem to be cases in which the public opinion, and even the scientific evidence, are clearly divided. For instance, one might think that sharing the work of an independent artist is especially unacceptable, while another might argue that in the case of unknown, beginning artists "piracy" might induce further popularity and therefore serve as promotion of the artist. Contradicting views may also relate to topics like DRM, which is often considered an unnecessary nuisance, even in the case of authorized consumption. The structure of the survey enables interactions between the dimensions that clearly identify such examples (e.g. DRM is a combination of *physicality*=no and *protection*=yes dimensions. Also, an interaction between the *peer* and *sharing* variables could indicate whether it is indeed more ethically acceptable, to share the work of less known, aspiring artists.

Regression results with the interactions are provided in Table 11 in the Appendix. The interactions prove generally insignificant and do not affect the coefficients on individual dimensions. The interaction between *peer* and *sharing* is the only significant one, but only in the sample of casual users. The difference in the coefficient between heavy and casual users may stem from difference in beliefs regarding the effect of file-sharing on the careers of aspiring artists.

5 Discussion and conclusions

Several studies and conventional wisdom suggest that ethical judgment of the online "piracy" is different from that of traditional theft. Accordingly, downloading seems to be wide spread

and prevails despite a number of initiatives by the owners of the copyright, whereas traditional theft is rare. Importantly, the very act differs as well along many dimensions known to be relevant for ethical judgment. Prevailing of online "piracy" may stem from three sources. First, since "we all do it" , it cannot be so bad - i.e. individual ethical norm adjusts to accommodate for individual actions. Second, since "it is not the same thing", the ethical judgment in general is consistent with other types of unauthorized appropriation, but the characteristics of the deed itself make it more ethically acceptable. Finally, it is also possible that the individual ethical norm is just as strict for both traditional and online appropriations, but the social norm is lax for online "piracy", which - in the light of the available studies - enhances the probability that one commits the act of "piracy".

Our objective in this paper was to identify whether these are the characteristics of online "piracy" or the ethical norms *per se* that create the discrepancy between the ethical evaluation of traditional theft and the online "piracy". We developed a vignette experiment to identify dimensions of the act of unauthorized appropriation in both traditional and digital context. The design aimed at addressing a number of weaknesses raised in earlier literature. We randomized treatments across respondent to infer differences between individual ethical norm and the prevailing social norm. Incentives in the social norm treatment help also to alleviate the problem associated with the fact that choices made by responders are purely hypothetical or careless. The stories in the vignette have a clear attachment to particular dimensions of the decision making process.

Our results are original in three ways. First, we show that in there is little difference between the social norm and the individual ethical judgment in the case of online "piracy" - the overall individual ethical judgment is somewhat more harsh, but the role each dimension plays in determining the extent of ethical (un)acceptability is similar in both cases. We can therefore conclude that the results are not driven by the fact that the discrepancy between the individual ethical judgment and the social norm does not stem from the controversial character of the topic. Second, we show that no single dimension makes a difference between the ethical evaluation of online "piracy" as opposed to traditional theft. Of the relevant dimension, all work in the expected direction, "physicality" being identified as the strongest one and availability of alternatives as the weakest, in fact not statistically significant. These are the objective characteristics of online "piracy" that make it more ethically acceptable than traditional theft. Unlike theft, online "piracy" involves no physicality, loss is low or inexistent and rarely breach of protection occurs (three or our quantitatively strongest predictors), consequently it fairs better in ethical competition. Importantly, violation of a legal norm (i.e. sharing) implies more negative ethical judgment. Third, we show that while heavy users are possibly more knowledgeable about the ways of obtaining cultural content online, both in individual and in social norms are similar to casual users along the relevant dimensions.

While the design of the vignette experiment has been careful to address potential caveats, there are two questions that cannot be answered based on our study. The tackling of the loss dimension is generally weaker than for the others. First, it does not address implicitly the *fructus*. Second, the stories involving no loss automatically took a standpoint on physicality. Also the tackling of the availability of alternatives is not exactly identical to the issues on public debate. Namely, debate focuses on acquiring cultural content, when the legal owner chooses not to distribute particular good in a particular form or to a particular group of consumers. In our vignette experiment availability of an alternative proved irrelevant for the ethical judgment, but many of the stakeholders argue in favor of unauthorized distribution exactly because acquiring authorized content is either too expensive or impossible to find. While it is relatively difficult to address these two weaknesses of our study, they are not likely to affect in any way the conclusions reached in this study.

In addition to the contribution to the literature of the field, this paper offers also in-

teresting policy insights. First, since individual ethical judgment is more strict than the social norm, campaigns emphasizing the former are likely to be effective in reducing the prevalence of downloading. Second, regardless of the ethical concerns, illegal activities are generally less acceptable. While the effect is not quantitatively large, it implies that changes in th legislation create room for furthering the restrictiveness of the individual ethical judgment. Finally, our study suggests also which informations to stress in awareness campaigns. For example, efforts to curb piracy by showing that it causes major losses are likely to be less effective in the light of our study than the arguments emphasizing the physicality of online "piracy". In fact, it seems that along with other areas of social life revolutionized by Internet, the non-physical nature of online "piracy" is of major importance for determining the ethical judgment. Our results suggest that a "pirate"' reaching for a file is going to be judged less acceptable than the same act of "piracy" pictured by clicking. More generally, our results are helpful in predicting prevalence of "piracy"-related behaviors in different contexts.

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A Stories

1. Johnny borrowed some notes from his classmate. The materials were kept on a pendrive. Besides them, the pendrive contained a season of a popular tv series original, and in high quality. Without asking for permission or informing the owner, Johnny copied the series and returned the pendrive.

2. While visiting a friend in his house, Johnny noticed, that in among huge DVD collection of TV series, many either had duplicates or were unopened including a DVD of one popular TV series. The owner doesn't have time or will to watch them. Given the opportunity of being alone in the room, Johnny put one of the unpacked duplicates in his backpack in order to take it back home, and have it for his own.

3. Johnny intended on borrowing and copying (for personal use) his friend's DVD of a popular TV series, knowing that his friend was sure to be ok with it. However, his friend left town before Johnny had the opportunity to ask him and so, given the opportunity while taking care of his friend's dog, he decided to take the DVD without asking for permission. Johnny doesn't intend on giving the series back after watching them.

4. A friend of Johnny's forgot to log out from his e-mail box, after using Johnny's computer. While closing the web browser, Johnny spotted that the mail currently displayed on his screen contained a one-use only access code for a payable site with TV series in High Definition. Johnny quickly copied the code, and after returning home used it on a season of a popular TV series.

5. Johnny searched the Internet for episodes of a popular TV series. Not being able to find them he bought a season of the series on DVD. However, he decided that it's unthinkable for the series not to be available on-line. After receiving his package he saved the episodes in AVI format and shared them publicly on the Internet.

6. Johnny searched the Internet for episodes of a popular TV series. Not being able to find them he bought a season of the series on DVD. However, he decided that it's unthinkable for the series not to be available on-line. After receiving his package he cracked the DRM protection, saved the episodes in AVI format and shared them publicly on the Internet.

7. Johnny searched the Internet for episodes of a popular TV series. Not being able to find them he borrowed a season of the series on DVD from his friend. However, he decided that it's unthinkable for the series not to be available on-line. After receiving his package he saved the episodes in AVI format and shared them publicly on the Internet.

8. Johnny searched the Internet for episodes of a popular TV series. Not being able to find them he borrowed a season of the series on DVD from his friend. However, he decided that it's unthinkable for the series not to be available on-line. After receiving his package he cracked the DRM protection, saved the episodes in AVI format and shared them publicly on the Internet.

9. Johnny found and downloaded from a site, which allows sharing and downloading files without their authors' knowledge, a full season of TV series created by his friend - a debuting, independent director whom he once met at a film workshop.

10. Johnny found and downloaded from a site, which allows sharing and downloading files without their authors' knowledge, the newest season of a high budget, American TV series.

11. Johnny downloaded a full season of a high budget, American TV series through a P2P network, while sharing it with other users simultaneously.

12. Johnny downloaded a full season of a high budget, American TV series through a P2P network. Johnny doesn't allow for other users to download the files from him (blocked sharing channel).

13. A new season of a popular, high budget, American TV series is available in kiosks as an add-on for a magazine priced 7,99 Zloty. However, Johnny downloaded the series from another source, for free.

14. Johnny went shopping to a hypermarket in which DVDs with films and series are also available. While walking among the shelves he saw that one of the DVDs with a season of a popular, high budget, American series doesn't have the anti-theft sticker on it. Johnny waited for the shop's staff to look the other way and took his favorite series.

15. During a break between classes, Johnny's friends went to a bar to buy something to eat. From previous talk, Johnny knew that in one of his friend's backpack there was a DVD with a season of a popular, high budget American TV series. Johnny opened the backpack and put the DVD into his own bag without being noticed. Johnny didn't intend on giving the DVD back after watching it.

16. Johnny's friend - a debutant director whom he met during film workshops - shares the first season of his series on his own website, on a pay-what-you-want basis, without setting a minimum price requirement. Johnny heard about this from common friends, but he downloaded episodes of the season from a popular website, which allows its users to upload and download files.

17. Johnny's friend - a debutant director whom he met during film workshops - shares the first season of his series on his own website, on a pay-what-you-want basis, without setting a minimum price requirement. Johnny heard about this from common friends, and, taking interest in the plot, downloaded all the episodes through a P2P network, while sharing it with other users simultaneously.

18. Johnny's friend - a debutant director whom he met during film workshops - shares the first season of his series on his own website, on a pay-what-you-want basis, without setting a minimum price requirement. Johnny heard about this from common friends, and, taking interest in the plot, downloaded all the episodes through a P2P network. Johnny doesn't allow for other users to download the files from him (blocked sharing channel).

B Regressions for treatments with restricted sample.

Table 10: Regressions for different treatments with the restricted sample

answer	Individual judgment	Social norms	Incetivized norms K&W, 2013	Heavy users
loss	-1.824**	-1.437**	-1.691**	-1.598**
	(3.66)	(3.73)	(4.35)	(4.84)
alternative	0.128	-0.003	0.066	0.164
	(0.68)	(0.02)	(0.42)	(1.08)
peer	-0.899**	-0.767**	-0.936**	-1.013**
	(5.61)	(4.64)	(5.73)	(7.34)
physical	-3.431**	-2.814**	-3.503**	-3.253**
	(8.07)	(8.21)	(10.63)	(11.87)
protection	-1.060**	-1.054**	-1.376**	-1.167**
	(3.50)	(4.23)	(5.30)	(5.61)
sharing	-0.600**	-0.544**	-0.657**	-0.650**
	(3.72)	(3.00)	(3.80)	(4.52)
treatment groups	individual ethical judgment as base			
social norms				0.395
				(1.46)
Krupka and Weber (2013)				0.380
				(1.44)
no. of observations	907	806	876	1,170
no. of individuals	111	95	102	141

Note: * $p < 0.05$; ** $p < 0.01$; z statistics in parentheses.
All regressions include control variables for gender, age, type of studies, duration of filling the survey and the screen number.

C Regressions for different treatments and interactions.

Table 11: Regressions for different treatments and interactions

answer	All	Non-heavy users	Heavy users
loss	-2.077**	-1.998**	-2.209**
	(8.41)	(5.72)	(6.29)
alternative	0.059	0.022	0.116
	(1.00)	(0.29)	(1.19)
pal	-0.698**	-0.575**	-0.856**
	(11.09)	(6.90)	(8.84)
physical	-3.031**	-3.044**	-3.099**
	(20.54)	(15.25)	(14.04)
protection	-1.025**	-1.041**	-1.035**
	(14.99)	(10.45)	(10.73)
sharing	-0.516**	-0.503**	-0.563**
	(6.61)	(4.56)	(4.75)
treatment groups	individual ethical judgment as base		
social norms	0.637**	0.703**	0.682**
	(4.47)	(3.44)	(3.53)
Krupka and Weber (2013)	0.556**	0.709**	0.471*
	(3.76)	(3.50)	(2.31)
interactions between variables			
share#peer	-0.140	-0.238*	-0.038
	(1.95)	(2.34)	(0.35)
physical#protection	0.613	0.521	0.739
	(1.91)	(1.06)	(1.75)
peer#loss	0.485	0.363	0.617
	(1.55)	(0.81)	(1.38)
no. of observations	6,057	3,298	2,759
no. of individuals	338	184	154

Note: * $p < 0.05$; ** $p < 0.01$; z statistics in parentheses.
All regressions include control variables for gender, age, type of studies, duration of filling the survey and the screen number.

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