

SHOULD PARIS HILTON RECEIVE  
A LIGHTER PRISON SENTENCE  
BECAUSE SHE'S RICH?  
AN EXPERIMENTAL STUDY

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# Should Paris Hilton Receive a Lighter Prison Sentence Because She's Rich? An Experimental Study

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August 2014

## Abstract

The 'equal punishment for the same crime' principle is generally agreed upon—yet its implementation differs radically depending on whether the punishment is measured purely in nominal terms or the subjective perspective of the punishee is accounted for. This is simply because different people may experience the same punishment with differing intensity.

Legal scholars have recently been proposing that improvements in scientific knowledge and advancing technologies (such as functional magnetic resonance imaging), which allow us to measure subjective perceptions and feelings, need and should be incorporated in our penal systems. This would facilitate calibrating the punishment not only to the crime but also to the offender's persona, so that different people experience equally tough punishment for the same crime.

However, such a substantial change in criminal law and policy necessitates a certain amount of public legitimacy and understanding among constituents. We run a simple experiment in order to learn how people understand punishment and to ascertain whether such legitimacy exists.

We find that it may be, in the case of pecuniary punishments. With regard to incarceration policies, however, the likelihood of popular acceptance of proposed innovations is rather remote. Our findings therefore point out a serious challenge to the existing literature and may complicate the implementation of suggested reforms, even if legal scholars find them worthwhile.

*Keywords:* Punishment, objectivism, subjectivism.

*JEL classification:* K14.

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## Abstrakt

Princip, že za stejný trestný čin má být stejný trest, je předmětem širokého konsenzu, nicméně jeho použití se může velmi výrazně odlišovat v závislosti na tom, zda je výše trestu chápána pouze nominálně, nebo podle toho, jak ji subjektivně pociťuje potrestaný. A to prostě proto, že různí lidé mohou stejný trest vnímat s různou intenzitou.

Někteří teoretici práva v současné době argumentují, že trestní politika by měla využít pokroky ve vědeckém poznání a rozvoj technologií (např. zobrazování pomocí magnetické resonance), které nám umožňují sledovat procesy v mozku a potažmo i subjektivní vjemy a pocity. To by usnadnilo přizpůsobit trest nejen povaze trestného činu, ale i osobnosti pachatele, a to tak, aby různí lidé za stejný čin pociťovali trest se stejnou intenzitou.

Nicméně, taková reforma trestního práva vyžaduje politickou legitimitu a širokou akceptaci mezi občany. Připravili jsme jednoduchý experiment, jehož cílem je přezkoumat, jak lidé chápou účel trestání a jeho spravedlnost, abychom zjistili, zda se případná reforma o takovou legitimitu může opřít.

V případě finančních trestů jsme dospěli k pozitivní odpovědi, ale ohledně trestu odnětí svobody se veřejná akceptace subjektivního přístupu ukazuje jako nepravděpodobná. Naše závěry lze proto chápat nejen jako námitku proti globálnímu subjektivismu na poli teorie práva, ale také jako možný argument proti případné reformě v této oblasti.

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## INTRODUCTION

Paris Hilton was sentenced to serve a term of 45 days in a U.S. county jail for violating her probation, putting temporary brakes on the hotel heiress's famous high life. She was originally sentenced for reckless driving involving alcohol. The judge's ruling excluded her from paying a fine and required her to serve time in a jail of her choice. Hilton, due to claustrophobia or the fact that she was accustomed to living in luxurious surroundings, may have experienced confinement in a much more frightening and tormenting way than the average person would. One of her attorneys, Howard Weitzman, stated explicitly that the sentence was "uncalled for, inappropriate and bordered on the ludicrous".<sup>1</sup>

### *A. The Debate: Objective versus Subjective Punishment*

Punishment is the coercive imposition of something undesirable or unpleasant upon an individual (else it does not punish).<sup>2</sup> From a historical point of view, punitive practices include fines, incarceration, disgrace, forced labor, bodily suffering and death. "Perhaps the most obvious quality that these practices have in common is that they are all in some way bad for the person on whom they are inflicted".<sup>3</sup> The "bad" associated with a punishment can be understood objectively (e.g., a deprivation of certain amount of property or liberty) or subjectively as the (amount of) psychological distress created by it. At the same time, a particular punishment will rarely produce the same degree of discomfort in two different persons.<sup>4</sup> Its actual effect on a person's wellbeing depends on her constitution and other personal circumstances.

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<sup>1</sup> Sandy Cohen, Paris Hilton Going to Jail for 45 Days, The Washington Post, Online, May 4, 2007, at [www.washingtonpost.com/wp-dyn/content/article/2007/05/04/AR2007050400489.html](http://www.washingtonpost.com/wp-dyn/content/article/2007/05/04/AR2007050400489.html) (last accessed on February 13, 2014).

<sup>2</sup> See H. L. A. Hart, *Punishment and Responsibility: Essays in the Philosophy of Law*, New York: Oxford University Press (1968), at 4.

<sup>3</sup> See David Boonin, *The Problem of Punishment*, Cambridge: Cambridge University Press (2008), at 6.

<sup>4</sup> See Jeremy Bentham, *An Introduction to the Principles of Morals and Legislation*, London: Printed for W. Pickering (1823), vol. II, at 21. See also Richard A. Posner, *An Economic Theory of the Criminal Law*, 85 Columbia Law Review 1193 (1985) at 1212 (noting that "[t]he economic objection to punishing by inflicting physical pain is not . . . that people have different thresholds of pain that make it difficult to calibrate the severity of the punishment—imprisonment and death are subject to the same problem").

For instance, the discomfort associated with a \$200 fine will be a decreasing function of the offender's income (provided her marginal utility of money is decreasing). Intuitively, such a fine will have a substantial effect on the next month's plans for a person with monthly earnings of \$1,500; whereas it would have barely any effect on the plans of someone earning \$15,000. Similar variation can be expected in prison experiences. For instance, a homeless person sentenced to spend eight weeks in a county jail for petty larceny may feel very different depending on whether he is to present himself in January or in May. A person suffering from claustrophobia will have greater difficulty coping with incarceration than a person without such a condition. Another factor influencing the shock and pain related to incarceration is income. This is because the punishee's starting conditions, their opportunities forgone, any fall in social hierarchy, and so on, depend also on income.<sup>5</sup> Thus, while the 'equal punishment for the same crime' principle is generally agreed upon, its implementation differs radically depending on whether the equality is understood in substantive or purely formal terms.

According to the subjectivist view, a punishment is a means for the production of subjective disutility, therefore we should measure its severity based on the subjective experiences of each individual punishee. Thus, the equality of punishment, in the subjectivist conception, requires sameness in the impact of punishment on punishees as sentient beings. As a result, two people who committed the same crime under similar circumstances should often receive different punishments, if their subjective experience of a given punishment would be different.<sup>6</sup>

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<sup>5</sup> See Gary S. Becker, *Crime and Punishment: An Economic Approach*, 76 *Journal of Political Economy* 169 (1968), at 195 (stating that "[i]ndeed, if the monetary value of the punishment by, say, imprisonment were independent of income, the length of the sentence would be inversely related to income, because the value placed on a given sentence is positively related to income") (emphasis author's). See also Adam J. Kolber, *The Subjective Experience of Punishment*, 109 *Columbia Law Review* 182 (2009), at 230. See generally A. Mitchell Polinsky and Steven Shavell, *The Optimal Use of Fines and Imprisonment*, 24 *Journal of Public Economics* 89 (1984).

<sup>6</sup> There is a parallel controversy about the 'equal punishment for the same crime' principle. The pay-to-stay programs provide an alternative to serving time in a county jail following a criminal conviction. Nonviolent offenders can pay for better accommodation, a clean, quiet cell, separated from other, nonpaying, prisoners. Some people perceive this to be unfair and unequal justice: two persons committed the same offense, but the rich offender has the option of a better cell, while the poor offender doesn't. See Laurie L. Levenson and Mary Gordon, *The Dirty Little Secrets about Pay-to-Stay*, 106 *Michigan Law Review First Impressions* 67 (2007), at 70.

The law accommodates the subjective aspects of punishment in some cases. Juveniles are treated differently from adults and first time offenders normally receive a lighter punishment than recidivists.<sup>7</sup> The sentencing mitigation takes into consideration some personal factors, including the degree of offender's sensitivity to a harsh punishment due to advanced age, illness, or disability.<sup>8</sup> In addition, the criminal codes of some countries explicitly enable differentiation of punishment by income or financial circumstances of offenders. This, however, applies almost exclusively to monetary punishments.<sup>9</sup>

Thus, we can still ask whether the penal system is sufficiently perceptive to the subtle factors that create variation in the subjective experience of punishment. The lack of such sensitivity may exist because ascertaining and weighting such factors was prohibitively costly, hitherto.<sup>10</sup> Recent advancements in psychology, neuroscience, and technology, such as functional magnetic resonance imaging (fMRI), however, have

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<sup>7</sup> Many legal systems are designed to punish repeat offenders more severely than first time offenders. This principle of escalating sanctions is explicitly formulated in many penal codes and sentencing guidelines. It is so widely accepted that it strikes most people as simple common sense. However, from the optimal deterrence point of view it is still a puzzle, because repeat offenders face higher probabilities of detection than offenders with clean records. See Mitchell A. Polinsky, Daniel L. Rubinfeld, *A model of optimal fines for repeat offenders*, 46 *Journal of Public Economics*, 291 (1991); Mitchell A. Polinsky, Steven Shavell, *On Offense History and the Theory of Deterrence*, 18 *International Review of Law and Economics* 305 (1998); David A. Dana, *Rethinking the Puzzle of Escalating Penalties for Repeat Offenders*, 110 *The Yale Law Journal* 733 (2001); Thomas J. Miceli, Catherine Bucci, *A Simple Theory of Increasing Penalties for Repeat Offenders*, 1 *Review of Law and Economics* 71 (2005); Winand Emons, *Escalating penalties for repeat offenders*, 27 *International Review of Law and Economics* 170 (2007); Tim Friehe, *Escalating penalties for repeat offenders: a note on the role of information*, 97 *Journal of Economics*, 165 (2009); Murat C. Mungan, *Repeat offenders: If they learn, we punish them more severely*, 30 *International Review of Law and Economics* 173 (2010).

<sup>8</sup> See Austin Lovegrove, *Proportionality Theory, Personal Mitigation, And The People's Sense of Justice*, 69 *Cambridge Law Journal* 325 (2010).

<sup>9</sup> Compare: Czech CC (2009) Art. 39 (1); German CC (1998) Art. 46 (2); Austrian CC (1975) Art. 19 (2); French CC (1994) Art. 132-24; Bulgarian CC (1968) Art. 47; Swiss CC (1937) 34 (2); Russian CC (1996) Art. 43 (3); Serbian CC (2005) Art. 54 (2). In this context, the Article 64 (1) of Hungarian CC (1978) is a very interesting provision: "(1) The person who is sentenced to imprisonment of a definite duration and has appropriate earnings (income) or property, a) shall be sentenced to a fine as a supplementary punishment, if he has perpetrated the crime for monetary gain, b) may be sentenced to fine as supplementary punishment, if he can be more efficiently restrained thereby from perpetrating a new crime."

<sup>10</sup> See Posner, cited in note 4, at 1212 (noting "The infliction of physical pain is not the only way in which the severity of punishment can be varied other than by varying the length of imprisonment. Size of prison cell, temperature, and quality of food could also be used as 'amenity variables.' . . . The problem is that this would make information about sanctions very costly, because there would be so many dimensions to evaluate. Time has the attractive characteristic of being one-dimensional, and differs from pain in that it has more variability.").



improved our ability to understand, objectively measure, and predict people's subjective experience of punishment and its discomfort.<sup>11</sup> A group of legal scholars, known as the 'subjectivists', have recently been arguing that such improvements in scientific knowledge and technology should be incorporated into criminal law, in order to ensure that punishment generates a uniform and appropriate amount of suffering for the offender, for a given crime.<sup>12</sup> Indeed, it may one day be possible to tailor punishment to each individual's circumstances and thereby heal the gross inequalities in the effects of penalties on offenders' subjective wellbeing. Only then, according to the subjectivists, will offenders of the same crime receive equal punishment.<sup>13</sup>

On the other side of the barricade, the objectivist conception demands that punishment be nominally equal (for instance, the same number of months in prison or a fine of the same amount of dollars). They postulate that the purpose of punishment is not to produce a certain amount of suffering in the offender, but to require her to pay her just deserts for her misdoings. The objectivists qualify the subjective experience of a punishee as utterly irrelevant and, as a result, abstract away from it. They demand that

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<sup>11</sup> See, for example, Klaus Fliessbach, et al, *Social Comparison Affects Reward-Related Brain Activity in the Human Ventral Striatum*, 318 *Science* 1305 (2007); Andrew J. Oswald and Stephen Wu, *Objective Confirmation of Subjective Measures of Human Well-Being: Evidence from the U.S.A.*, 327 *Science* 576 (2010); Enrico Schulz, et al, *Decoding an Individual's Sensitivity to Pain from the Multivariate Analysis of EEG Data*, 22 *Cerebral Cortex* 1118 (2012); Alexander Weiss, et al, *Evidence for a Midlife Crisis in Great Apes Consistent with the U-shape in Human Well-being*, 109 *Proceedings of the National Academy of Sciences* 19949 (2012). See generally Greg Miller, *Brain Scans of Pain Raise Questions for the Law*, 323 *Science* 195 (2009).

<sup>12</sup> See John Bronsteen, Christopher Buccafusco, and Jonathan Masur, *Happiness and Punishment*, 76 *University of Chicago Law Review* 1037 (2009); John Bronsteen, Christopher Buccafusco, and Jonathan Masur, *Retribution and the Experience of Punishment*, 98 *California Law Review* 1463 (2010); Adam J. Kolber, *The Comparative Nature of Punishment*, 89 *Boston University Law Review* 1565 (2009); Adam J. Kolber, *The Experiential Future of the Law*, 60 *Emory Law Journal* 585 (2009); Kolber, *The Subjective Experience of Punishment*, cited in note 5; Adam J. Kolber, *Unintentional Punishment*, 18 *Legal Theory* 1 (2011); Adam J. Kolber, *Against Proportional Punishment*, 66 *Vanderbilt Law Review* 1141 (2013).

For sociological and economic research along these lines see also Michael Massoglia, *Incarceration as Exposure: The Prison, Infectious Disease, and Other Stress-Related Illnesses*, 49 *Journal of Health and Social Behavior* 56 (2008); Devah Pager, *The Mark of a Criminal Record*, 108 *American Journal of Sociology* 937 (2003), and an earlier study by John R. Lott, *Do We Punish High Income Criminals Too Heavily?* 30 *Economic Inquiry* 583 (1992).

<sup>13</sup> Note that an analogous discussion exists in the literature on civil damages. For instance, the outrage model is a subjective approach to punitive damages. It considers damages an expression of an angry attitude toward a transgressor. See Daniel Kahneman, David Schkade, Cass R. Sunstein, *Shared Outrage and Erratic Awards: The Psychology of Punitive Damages*, 16 *Journal of Risk and Uncertainty* 49 (1998), at 64 (noting that "[i]n the outrage model, punitive intent is an intention to inflict pain; this means that the size of the defendant matters a good deal.") See also, generally, Theodore Eisenberg, et al, *Juries, Judges, and Punitive Damages: An Empirical Study*, 87 *Cornell Law Review* 743 (2002).

punishment should remain objective, limiting our attention on acts, culpability, and just deserts.<sup>14</sup> The variation in how the offender actually experiences the punishment is external to it and therefore does not enter into the determination of the severity of the punishment. An objectivist can also point out to the significant measurement and quantification problems still associated with a subjective punishment conception, which have implications for non-arbitrariness and predictability as elements of the Due Process Clause.<sup>15</sup>

### B. *This Study*

We see both sides of the debate as having substantial merit and producing nontrivial arguments.<sup>16</sup> Although the subjectivist approach is held by a minority of scholars, we

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<sup>14</sup> See David Gray, *Punishment as Suffering*, 63 *Vanderbilt Law Review* 1619 (2010); Dan Markel and Chad Flanders, *Bentham on Stilts: The Bare Relevance of Subjectivity to Retributive Justice*, 98 *California Law Review* 907 (2010); Dan Markel, Chad Flanders, and David Gray, *Beyond Experience: Getting Retributive Justice Right*, 99 *California Law Review* 605 (2011).

<sup>15</sup> Larry May, *Global Justice and Due Process*, Cambridge: Cambridge University Press (2010); Thomas E. Sullivan, Toni M. Massaro, *The Arc of Due Process in American Constitutional Law*, Oxford: Oxford University Press (2013). Note, however, that similar criticisms can also be leveled against the objectivist conception of punishment.

<sup>16</sup> The controversy between subjectivist and objectivist approaches to punishment is, indeed, relevant to the two main theories of criminal punishment; that is, consequentialism and retributivism. See, generally, Boonin, cited in note 3; Ted Honderich, *Punishment the Supposed Justifications Revisited*, London: Pluto Press (2006); Matt Matravers, *Justice and Punishment: The Rationale of Coercion*, Oxford: Oxford University Press (2000); Nicola Lacey, *State Punishment: Political Principles and Community Values*, London: Routledge (1988); Michael S. More, *Placing Blame: A Theory of the Criminal Law*, Oxford: Oxford University Press (1997).

The consequentialist justifications of punishment lie in the idea that punishment is only justifiable on the basis of its good consequences. See, for example, Posner, cited in note 4, at 1207 (stating that “reducing the penalty for a lesser crime may reduce the incidence of a greater crime . . . [i]f it were not for considerations of marginal deterrence, more serious crimes might not always be punishable by more severe penalties than less serious ones”). Thus, it seems the consequentialists are in the end committed to subjectivism, as tailoring punishments to criminals’ personae may yield more precise deterrence incentives and, as a consequence, a more efficient use of public resources. See *id.* at 2012 (noting that “[i]t may seem very attractive from a cost-effectiveness standpoint to reduce the length of imprisonment but compensate by reducing the quality of the food served the prisoners; the costs of imprisonment to the state, but not to the prisoners, would be reduced”). See, generally, Becker, cited in note 5; Polinsky and Shavell, cited in note 5.

The retributivist theories by and large present the opinion that punishment is justified only when a punished person deserves it and offenders should face a punishment that is in proportion to their blameworthiness. See Jesper Ryberg, *The Ethics of Proportionate Punishment: A Critical Investigation*, Dordrecht, The Netherlands: Kluwer Academic Publishers (2004), at 16. See, generally, Herbert Fingarette, *Punishment and Suffering*, 50 *Proceedings and Addresses of the American Philosophical Association* 499 (1977). Therefore, retributivists need to disambiguate the notion of the severity of punishment and, as a consequence, they face the dilemma of whether punishment is to be determined according to the subjectivist or the objectivist conception. See Gray, cited in note 13, at 1670; Kolber, *The*

believe its relevance may grow with new scientific knowledge and technology. The recent debate may well be a reflection of that. Thus, given the size of the stakes and far-reaching implications for public policy, the literature needs to take into consideration how people understand the role of criminal punishment and its legitimacy. This article aims to contribute to the debate by investigating two closely related research questions: (i) Do people consider subjective perception to be a legitimate determiner of punishment? (ii) Is the answer the same for different types of sanctions?<sup>17</sup>

Learning about people's attitudes towards subjective aspects of punishment is important for three main reasons: (i) It is important that existing penal policies are perceived to be legitimate, especially as possibilities for innovations and enhancements emerge.<sup>18</sup> (ii) Even scientifically sound policy innovations in the criminal law system need to be accepted by the general public. A better understanding of people's beliefs and attitudes is directly relevant to policy design and framing. This article is thus of direct relevance to the current theoretical battle between the subjectivists and the objectivists and provides important empirical information on the feasibility of subjectivist reforms of the criminal law. (iii) People's views and attitudes, apart from giving legitimacy to policies, often represent common sense. While we acknowledge that sound policies may contradict popular opinion, we note that in cases where they do, arguments must be carefully crafted and the policy's legitimacy must be drawn from elsewhere, in order to outweigh the common sense solutions.<sup>19</sup>

We have designed and run a survey experiment in order to gain insights into these questions. The experiment focuses on fines and incarceration, as they are the most salient types of punishment, and studies the role of the offender's income as a major source of variation in the subjective perception of punishment. Our main focus is on the relationship between punishment and wealth, because it is straightforward to link

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*Comparative Nature of Punishment*, cited in note 11, at 1569; Kolber, *Against Proportional Punishment*, cited in note 11, at 1161; Markel and Flanders, cited in note 13, at 911. See, generally, Kolber, *The Subjective Experience of Punishment*, cited in note 5.

<sup>17</sup> See generally Dan M. Kahan, *What Do Alternative Sanctions Mean?* 63 *University of Chicago Law Review* 591 (1996) (analyzing the importance of how punishment is perceived by the public).

<sup>18</sup> See generally *id.*

<sup>19</sup> The general approach pursued in this study is analogous to one found in Cass R. Sunstein, David Schkade, and Daniel Kahneman, *Do People Want Optimal Deterrence?* 29 *Journal of Legal Studies* 237 (2000).

systematic differences in the subjective effects of punishment to wealth,<sup>20</sup> and the related policy implications of the subjectivists' perspective are rather controversial. The design facilitates identification of implicit rules as well as unconscious attitudes towards the two main types of criminal punishment.

The experiment has generated a rich dataset that allows us to gain a substantial insight into the phenomena under study. Briefly, the results suggest that policy changes that would link the value of fines to the offenders' income may be acceptable or even welcome. Indeed, about 60 percent of our subjects supported varying fines with income. However, almost 90 percent of our subjects thought that wealth should not affect prison sentencing—even if one can reasonably assume that standard of living systematically affects the punishee's subjective experience of their punishment.<sup>21</sup> Our findings are dramatic and robust and we believe that they identify important challenges for the innovation of criminal law and policies proposed by the subjectivists.<sup>22</sup>

## I. STUDY DESIGN

The structure of our experimental design is straightforward and is implemented as a survey experiment. Specifically, each subject is asked to assess two criminal cases, in which the defendant has been convicted. The cases are presented one at a time, so that the facts of the second case are revealed only after the first case is concluded. In each case, we ask our subjects to decide on the punishment, which consists of a fine and a prison term; we only restrict their decisions to non-negative numbers. The two cases only differ the in defendant's income and his profession.<sup>23</sup>

We randomize the order of the two cases, so that one group of subjects first evaluates the case with the poor defendant and the second group first evaluates the case with the rich defendant. Additionally, in order to ascertain the possibility that our data are an artifact of a particularly chosen criminal scenario, we use two types of scenario, a car

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<sup>20</sup> See Becker, cited in note 5; Kolber, *The Subjective Experience of Punishment*, cited in note 5.

<sup>21</sup> Wealthy people experience imprisonment as a bigger drop in living standard than the average person.

<sup>22</sup> The data and computer code producing reported results are available from the authors upon request.

<sup>23</sup> We vary the profession of the defendant, to keep the story realistic. We use 'a plumber' and 'a programmer' and believe these are fairly neutral. Our follow-up discussions with pre-test respondents support this assumption.

accident and a bar battery. These two scenarios vary across respondents, but not within, so that each respondent deals with only one scenario in all her decisions.

### *A. The Scenarios*<sup>24</sup>

The car accident scenario involves reckless driving under the influence of alcohol, when the defendant has no prior criminal record. The battery scenario involves alcohol as well, while the defendant received a suspended sentence for an alcohol-related accident a couple of years before. In both scenarios, there is a victim who suffered injuries that required hospitalization and several months to fully recuperate. Thus, the two scenarios represent two qualitatively different types of crime; an accident due to reckless behavior and a violent attack.

The victim has the right to be compensated for her (or his, in the battery case) material losses and forgone earnings, as well as for their pain and suffering. A court expert has established the extent of these damages.<sup>25</sup> This is important for two reasons: (i) the punishment itself does not need to serve to compensate the victim or seek revenge for her suffering (this does not preclude a punishment motivated by retribution for society); (ii) together with the defendant's income, it serves as an implicit budget constraint, so that our subjects are encouraged to consider the criminal's means and his capacity to pay for the damages as well as the fine.

### *B. Experimental Variation and Its Interpretation*

This experimental design creates two main sources of variation; between-group variation and within-subject variation. Between-group comparison gives us an insight into whether people take income into consideration when deciding on a fine or the length of a prison term. However, we are interested in whether this is a part of an implicit rule or an unconscious attitude, tendency or bias. This is when the within-subject variation comes in. If the defendant's income is part of the rule, we expect differences between the first and second decisions, since they differ only in the

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<sup>24</sup> Instructions and used criminal scenarios are available in the Appendix.

<sup>25</sup> We chose the value of damages so that it represents approximately 20 months of after-tax income for the poor criminal and three-month after-tax income for the rich criminal (see footnotes 26 and 27).

defendant's income. Alternatively, if our subjects disregard income as a decision variable, they should logically give the same solution in both cases. Our design also allows people to decide to take income into consideration for the fine and disregard it when deciding about the prison sentence, or vice versa. Thus, the identifying assumption of this design is: the decision on the second case in the sequence has to be logical, in other words, the initial decision is a binding precedent.

### C. Implementation

We run our experiment using the SoSci Survey ([www.soscisurvey.de](http://www.soscisurvey.de)) website. It offers tools for creating, testing, and running surveys. It also facilitates randomization via PHP code. The respondents are firstly informed that they will participate in a study on people's attitudes towards pecuniary punishment and incarceration and that there will be a sequence of cases they need to evaluate. We tell them explicitly that no particular jurisdiction applies, so that they may and should choose the punishment they see (*de lege ferenda*) appropriate.

After the initial instructions, subjects are presented with the facts of the first case. The task is to decide on the appropriate mix of a prison term in days and a fine in Czech Crowns. After taking their first decision, subjects are presented with the second case. The only differences from the first case are the defendant's income level and his profession: half of the subjects first decide a case with a poor defendant (a plumber who earned a net monthly income of 12,270 and 13,330 Czech Crowns<sup>26</sup> (CZK) in the past two years) and then receive the same case with a rich defendant (a programmer with net monthly earnings of 80,380 and 82,600 CZK<sup>27</sup>). For comparison, gross average wage in the fourth quarter of 2012 (that is the quarter preceding the survey experiment) was 27,170 CZK (\$1,380), the net average wage for a childless person would be 20,776 CZK (\$1,055), according to the Czech Statistical Office's web site. The order is reversed for the other half of the subjects.

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<sup>26</sup> Approximately \$625 and \$675, respectively. The exchange rate on April 11, 2013, while we run the experiment, was 19.7 CZK to one US Dollar and 25.9 CZK to one Euro, according to the Czech National Bank's website.

<sup>27</sup> Approximately \$4,080 and \$4,193, respectively.

Upon providing the second answer, subjects are given the opportunity to correct their decisions, if they wish. This stage is described as an appellate court revision of the two cases, and these decisions are recorded separately. After their final decisions, respondents are debriefed about the motives behind their reasoning as well as their opinions on penal policy and potential policy changes. Finally, subjects are asked a series of questions about their background, demographic characteristics, and political attitudes.

## II. DATA

After thorough pre-tests, with the help of our colleagues and later a small group of students, we sent email to approximately 400 first-year undergraduate students at the Faculty of Business and Economics, Mendel University in Brno and approximately 100 students at the University of Economics in Prague.<sup>28</sup> In total, 215 students completed our survey between Friday March 3 and Thursday March 28, 2013.<sup>29</sup>

### A. *Summary Statistics*

Table 1 reports the summary statistics of the collected dataset. The average fine in the first case is 370,000 CZK (\$18,780) and in the second case it is 400,000 CZK (\$20,300); however, both medians are 240,000 CZK (\$12,180), suggesting the two distributions are quite similar. An equal fine was assigned to both rich and poor criminals by 44 percent of subjects; the rest varied the fine across their two cases. Distributions of prison sentences are also similar for the first and second cases. Average prison lengths are about 685 days while both medians are 365 days, suggesting that a few people gave unusually high prison sentences. Close to 90 percent of subjects assigned the same prison terms in their two cases. The results are rather similar for the

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<sup>28</sup> The email was sent by professors, asking their students to participate in a ten-minute survey. It stressed the importance of their answers as well as giving assurance that the survey was anonymous. Because the emails were not sent by us and the survey was anonymized, we cannot report specific response rates for Brno and Prague.

<sup>29</sup> This includes only respondents who completed the entire questionnaire; 48 additional respondents stopped before the end of the questionnaire. Reported results are based on data from complete questionnaires. However, the results do not change if all data was used, where applicable. Gender is missing for four respondents who completed the whole questionnaire, thus the number of observations for results which contain gender drops to 211.

**Table 1: Summary Statistics**

Statistic	Mean	St. Dev.	Min	Pctl(25)	Median	Pctl(75)	Max
<b>Initial decisions</b>							
Fine in case 1 (CZK)	370 429	875 355	0	100 000	240 000	300 000	10 000 000
Fine in case 2	400 240	1 445 339	0	90 000	240 000	300 000	20 000 000
Equal fine to rich and poor (=1)	0.44	0.50	0	0	0	1	1
Prison in case 1 (days)	682	814	0	180	365	858.0	5 475
Prison in case 2	689	814	0	180	365	1 000	5 475
Equal prison to rich and poor	0.87	0.33	0	1	1	1	1
<b>Appellate decisions</b>							
Fine in case 1	296 622	488 712	0	50 000	240 000	300 000	5 000 000
Fine in case 2	368 122	1 448 837	0	49 000	200 000	300 000	20 000 000
Equal fine to rich and poor	0.40	0.49	0	0	0	1	1
Prison in case 1	679	813	0	120	365	1 000	5 475
Prison in case 2	680	813	0	135	365	908.0	5 475
Equal prison to rich and poor	0.87	0.34	0	1	1	1	1
Age	22	4.80	19	20	21	23	73
Woman (=1)	0.48	0.50	0	0	0	1	1
Political views (1–5)	3.60	1	1	3	4	4	5
Wealth (decile)	5.10	1.50	2	4	5	6	9
Time to finish survey (seconds)	590	166	212	468.0	581	705	1 017
Number of observations	215						

Wealth asks students to rank their families' wealth or income on 10 decile scale. Politics measures answers to a question about their political views in the realm of public finance and redistribution, it is coded as: 1 "Left", 2 "Leaning to left", 3 "Center", 4 "Leaning to right", and 5 "Right".

appellate stage in which subjects were offered the opportunity to overview their two cases and revise their initial decisions.

The selected subjects' characteristics are at the bottom of Table 1. Our subjects were in their early 20s and both genders are represented equally. Their average political views are 3.6 on a 1–5 scale, that is, our subjects place themselves in between the center and right wing, and on average their families' wealth is ranked as being in the middle of the wealth distribution in the society. Subjects took on average 10 minutes to complete the survey.

### *B. Randomization Checks*

In order to check whether our experiment worked as intended, we run a set of regressions testing whether the two scenarios and the order of defendants were assigned to our subjects randomly. To summarize, all coefficients on treatment dummies are close to zero and never statistically significant, meaning that subjects' observable characteristics do not differ across treatments. This indicates that the randomization



indeed worked as intended. The randomization tests are described in more detail in the Appendix and results are reported in Table A1.

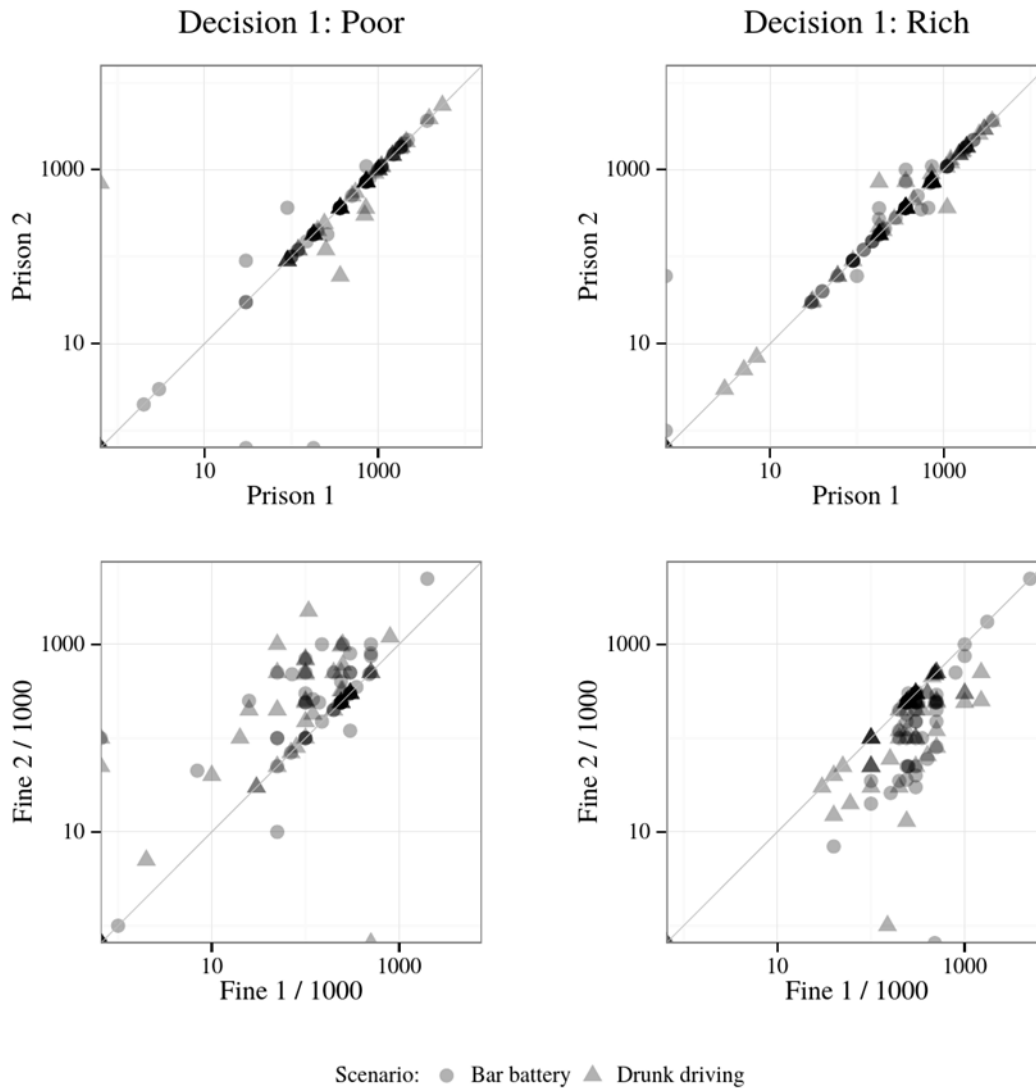
We have later presented our first results to the students who took part in our survey. We have discussed with them whether our assumptions and interpretation are appropriate. There was no disagreement on this. We also asked the students whether they had heard about the structure of our survey from their peers prior to responding; none had. The most common reasons for not participating in the survey were the importance of other things to do, and ignoring all requests to participate in online surveys. We find this comforting and an indication that our survey worked as intended and that our identifying assumptions were not compromised.

### III. RESULTS: RULES AND ATTITUDES

#### A. *Within-Subject Results: The Rules*

Figure 1 plots our subjects' first and second decisions on prison terms and fines. The two lots on the left show the decisions of the subjects who first judged the poor defendant (the plumber) and then the rich defendant (the programmer). Looking at the top-left plot, it is apparent that most points lie on the 45-degree line, except for a few observations scattered around it. This pattern is also seen in the top-right plot, plotting decisions of subjects for which the order of defendants is reversed. Thus, the vast majority of subjects assigned the prison terms without explicit regard for defendant's income. Specifically, over 87 percent of our respondents gave the same prison term in both cases.

The picture changes dramatically when we look at the two bottom plots showing decisions about fines. The majority of decision points in the bottom-left plot lie on the 45-degree line or above it. These are cases where the first defendant was poor and the second rich. The interpretation is straightforward—our subjects assign an equal or higher fine to the rich defendant. The bottom-right plot of Figure 1 shows the decisions of subjects who decided the case with the rich defendant first. Most subjects in this group, again, vary the fine according to the defendant's income—the poorer defendant receives an equal or lower fine for the same offense. The signal from the decisions plotted in Figure 1 is clear. A substantial portion of our subjects are applying a rule



**Figure 1:** Within-subject variation in prison sentences and fines, by case order. Each point is a combination of decisions in the first and the second cases in the sequence given to the respondent. Prison terms are measured in days; fines are in Czech Crowns divided by 1000.

linking fine to income, whereby high-income offenders should receive high fines and vice versa. When it comes to incarceration, however, the rule is very different: rich and poor should receive the same prison sentence for the same offense.<sup>30</sup>

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<sup>30</sup> Note that fines and prison terms are decided simultaneously by the subjects, so this interpretation is valid. Our follow-up discussions with the respondents did not reveal any issues with our interpretation.

### B. *Between-Group Results: The Attitudes*

Our experimental design allows us to compare the rules identified as implicit in within-subject decisions with choices at the group level. This identification comes from the random assignment of first cases, where one group received cases with poor defendants and the other group received cases with rich defendants. Because the first cases are decided without reference to previous decisions, they may reflect unconscious attitudes, biases, or intuitions. For instance, people may be unconsciously biased against the rich and tend to give them heavier sentences. Or, they may tend to give heavier prison sentences to the poor, as they may not be able to pay the fine. Are group-level choices consistent with the rules? The answer is affirmative.

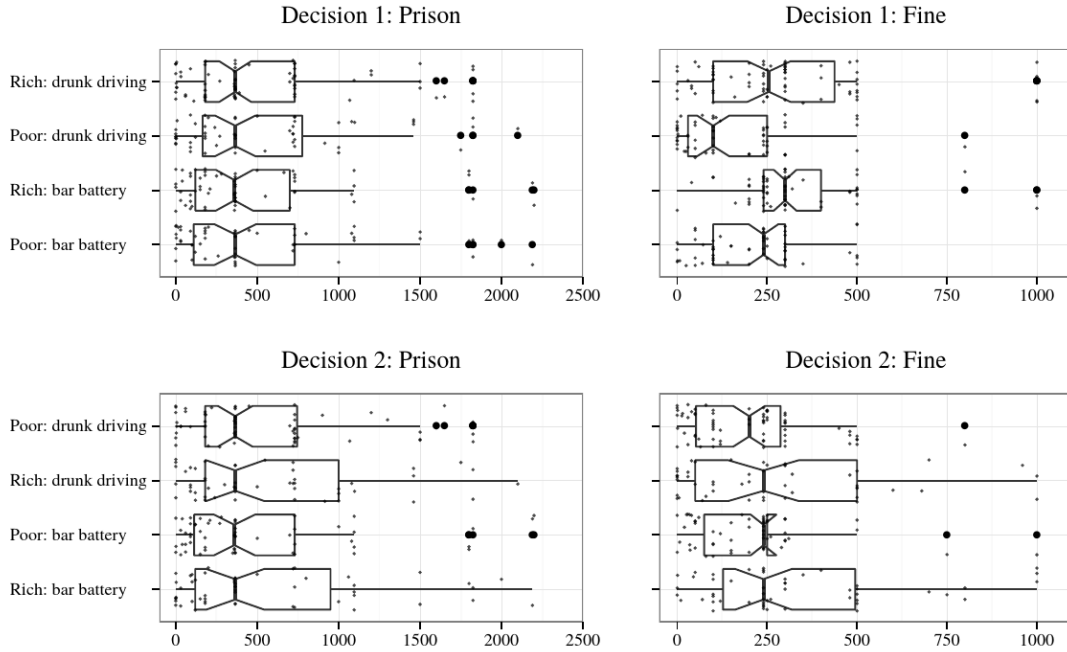
This can be seen in Figure 2, showing notched box plots of group-level data across our four treatments. Looking at fines first, they are higher for the rich defendant than the poor defendant both in the car accident scenario and in the battery scenario, however only the former difference in medians is statistically significant.<sup>32</sup> This holds for first and second decisions in the sequence, except second decisions in the battery cases. Thus, intuitions seem to match the implicit rules in that, when it comes to fines, the rich should pay a higher fine.

The picture is also consistent when we look at group-level decisions on prison terms. Rich and poor face similar median judgments and this is true for first and second decisions. This finding strengthens our confidence that within-subject variation identifies implicit rules people adhere to. Moreover, we do not observe any systematic bias, such as aversion toward the rich that would produce a deviation from that rule when there is no binding precedent.

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<sup>31</sup> See, Robert McGill, John W. Tukey, and Wayne A. Larsen, *Variations of Box Plots*, 32 *American Statistician* 12 (1978).

<sup>32</sup> Non-overlapping notches suggest statistically significant difference in medians at 5 percent level, see id.



**Figure 2:** Between-group variation in prison sentences and fines, by case type and defendant’s income. Prison terms are measured in days; fines are in Czech Crowns divided by 1000. The upper and lower ‘hinges’ correspond to the 25th and 75th percentiles. The upper (lower) whisker extends from the hinge to the highest (lowest) value that is within  $1.5 \times IQR$  of the hinge, where  $IQR$  is the distance between the 25th and 75th percentiles. The notches extend  $1.58 \times IQR/\sqrt{n}$ , where  $n$  is the number of observations, roughly a 95 percent confidence interval for comparing medians.<sup>32</sup>

### C. Debriefing

After the respondents had made their decisions about punishment, we asked them a series of questions regarding the motives behind their decisions, as well as direct questions about their opinion on the relevance of wealth and punishees’ subjective suffering in punishment determination.

#### 1. Motives and Purposes of Punishment

To gain an insight into the motives that may have affected our subjects’ decisions, we presented them with five possible purposes of punishment, representing standard theories of punishment: rehabilitation of the criminal; incapacitation, so that he is unable to commit further crimes; retribution or just deserts; specific deterrence of the

criminal from future wrongdoing; and general deterrence of other potential criminals.<sup>33</sup> We then ask our respondents to evaluate (on a scale ranging from 0 to 10) the role of each purpose in their punishment decisions.<sup>34</sup>

We analyze the punishment motives in the following regression framework: Let  $Y$  be a the value of a punishment purpose and  $i$  an indicator of each respondent, we estimate

$$Y_i = \beta_0 + \beta_1 C_i + \beta_2 O_i + e_i, \quad (1)$$

where  $C_i$  is an dummy variable equal to 1 if respondent  $i$  received the car accident scenario and 0 if she received the bar battery scenario;  $O_i$  is a dummy set to 1 if the respondent first received a case with the rich defendant and it is 0 for those who first received the poor defendant; finally  $e_i$  is the unexplained residual. The coefficient  $\beta_0$  is the intercept estimating the mean of  $Y_i$  for the group who received a sequence of two battery cases and had the poor defendant as their first case. Coefficients  $\beta_1$  and  $\beta_2$  are the parameters of interest and they estimate the difference of mean  $Y_i$ , from the intercept, for the group who received the car accident scenario and for the group who received the rich defendant as their first case, respectively.

Table 2 reports the results of estimates of regression (1) with the scores of individual purposes as the outcomes. The group with battery crime with a poor defendant in their first case is the reference category. While all five motives seem to play an important role in the battery scenario, specific deterrence appears to be the most important. All motives are weaker in the accident scenario, except the rehabilitation purpose. Notably, the intention to incapacitate is substantially smaller—the coefficient of -1.36 (on a 0 to 10 point scale with mean around 7.5) is substantively as well as statistically significant.

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<sup>33</sup> See Robert M. McFatter, *Purposes of Punishment: Effects of Utilities of Criminal Sanctions on Perceived Appropriateness*, 67 *Journal of Applied Psychology* 255 (1982); Kevin M. Carlsmith, *The Roles of Retribution and Utility in Determining Punishment*, 42 *Journal of Experimental Social Psychology* 437 (2006).

<sup>34</sup> For example the wording of the retributive purpose of the punishment in our survey is: “A deserved retaliation for the criminal act.”

**Table 2: Purposes of Assigned Punishments**

	Rehabilitation	Incapacitation	Retribution	Deterrence	
				Specific	General
Constant	7.58*** (0.36)	7.30*** (0.41)	7.80*** (0.37)	9.27*** (0.26)	8.03*** (0.32)
Car accident (=1)	0.34 (0.38)	-1.36*** (0.45)	-0.41 (0.41)	-0.61** (0.29)	-0.40 (0.37)
Rich first (=1)	-0.14 (0.38)	0.20 (0.45)	0.96** (0.42)	0.22 (0.30)	-0.05 (0.37)
Observations	215	215	215	215	215
R <sup>2</sup>	0.00	0.04	0.03	0.02	0.01

Dependent variables are respondents' answers to five questions regarding the importance of five alternative purposes of punishments in their decisions. Respondents are asked to evaluate the relevance of each purpose on a scale ranging from 0 to 10. For instance, the wording of the general deterrence purpose is "To deter other potential criminals". Robust standard errors are in parentheses: \* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ .

We suggest that the pattern of results in Table 2 is consistent with the qualitative difference between the two cases; our respondents seem to have different motives and see a different purpose to punishment for an unintentional, albeit negligent, behavior that led to a damage compared to a punishment for a deliberate attack against a physically weaker opponent. It is more feasible that the first will respond to incentives, whereas the latter needs to be isolated from the society. Thus we interpret these results as suggesting that our subjects understood their cases and their decisions show a certain degree of consistence.

## 2. Respondents' Opinions on Subjective Aspects of Punishment

To further gauge our understanding of respondents' decisions and general attitudes, we asked them a series of direct questions regarding the relevance of punishees' subjective perceptions and wealth in determining punishment. Specifically, we asked our subjects whether an offender's income or wealth should affect their fine (prison sentence) and whether the fine (prison sentence) should increase, decrease, or remain stable with higher income. The first four columns of Table 3 report the answers to these questions; the models are based on regression (1). Consistent with the patterns of decisions in Figures 1 and 2, the results for fines and imprisonment differ starkly. Our subjects lean towards the idea that fines should increase with wealth. However, they strongly disagree with the proposition that wealth should affect prison sentence length. The patterns of the results for car accident and battery scenarios are virtually the same,

**Table 3: Wealth, Punishment, and Technology**

	Punishment and Wealth				Usefulness of fMRI		
	$F(I)?$	$F'(I) = ?$	$P(I)?$	$P'(I) = ?$	Should affect punishment?	$F'(I) > 0?$	$P'(I) < 0?$
Coding range:	{-2, 2}	{-1, 1}	{-2, 2}	{-1, 1}	{-2, 2}	{-2, 2}	{-2, 2}
Constant	0.25 (0.19)	0.59*** (0.06)	-1.61*** (0.11)	-0.02 (0.03)	-0.10 (0.14)	0.32* (0.19)	-1.37*** (0.13)
Car accident (=1)	-0.08 (0.21)	-0.02 (0.07)	0.03 (0.13)	-0.03 (0.03)	-0.24 (0.16)	-0.13 (0.20)	-0.03 (0.14)
Rich first (=1)	0.37* (0.21)	0.05 (0.07)	-0.01 (0.13)	0.01 (0.03)	0.01 (0.16)	0.17 (0.20)	0.00 (0.15)
Observations	215	204	215	210	215	215	215
R <sup>2</sup>	0.02	0.00	0.00	0.01	0.01	0.00	0.00

The outcome variables in first four columns are respondents' answers to questions whether fines ( $F$ ), or prison terms ( $P$ ) should depend on income and in what way ( $F'$ ,  $P'$ ). The fifth column measures responses to a question whether technologies, such as fMRI, should be employed to tailor punishments to criminals. Columns six and seven measure answers to a question whether the rich should get higher fines if the technologies show that they perceive the fine as less "painful" than the poor and whether the rich should get lighter prison terms if technologies show that they experience incarceration more severely than the poor, respectively. Coding range  $\{-2, 2\}$ : -2 "Strongly disagree", -1 "Disagree", 0 "Undecided", 1 "Agree", 2 "Strongly agree". Coding range  $\{-1, 1\}$ : -1 "Should decrease", 0 "Should not change", 1 "Should increase", N/A "Do not know" (dropped from regressions). Robust standard errors are in parentheses: \* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ .

and do not differ for people who first punished the rich defendant compared with those who punished the poor defendant in their first case, as can be seen in the second and third row of coefficients in Table 3. The only exception is that the group who received the rich criminal in their first case are more likely to agree that fines—but not prison terms—should be affected by the criminal's wealth.

The last three columns of Table 3 report the respondents' answers to questions regarding the use of (future) technologies, such as functional magnetic resonance imaging, that allow criminals' subjective feelings or experience of punishment to be measured. Specifically, we first asked people whether information acquired by these means should play a role in the determination of punishment. Our subjects were rather unsure about this, as suggested by all three coefficients in the fifth column of Table 3. We then asked them whether rich people should receive higher fines if technologies systematically show that they perceive a certain fine less negatively than the poor. The result is a weak agreement. Finally, we asked our subjects whether rich people should receive lighter prison sentences if the technologies systematically report that they perceive incarceration more negatively than the poor—and they rather strongly disagreed.

In summary, these results are in line with our experimental findings. In addition, there is an indication that people may be averse to the idea that the subjective

experience of punishment should determine its extent, even if technologies were to make the required information available.

#### IV. WHAT EXPLAINS THE RULES? POLITICS VERSUS WEALTH

Although there is no disagreement on the equality of prison sentences, our subjects are split on the issue of whether the size of fine should depend on the offender's income, with between 40 and 45 percent assigning the same fine in both cases and 55 to 60 percent adjusting fine according to income. What explains the divide? We hypothesize that two factors may play a role, namely wealth and political views.

From a purely self-interested perspective, richer people should generally prefer fines set in nominal terms, whereas poorer people should prefer fines to be proportional to income.<sup>35</sup> At the same time, during discussions of our results, we observed that a preference for the equal fine rule correlates with preference for flat tax; that is, a tax rate that does not progress with income.<sup>36</sup> Such preferences may be driven by either the (expected) wealth of the respondent or her political preferences. This is because richer people would benefit from a flat tax and the poor would be hurt by it.<sup>37</sup> At the same time the progressive versus flat tax perspective is a typical indicator of left-right divide on the political scale.

Because we asked our subjects about wealth as well as about their political views, our survey allows us to test these hypotheses.<sup>38</sup> First, we run a set of linear probability regressions, where the outcome is an indicator coded as 1 if the respondent assigned the same fine to the poor as to the rich offender and 0 otherwise. Specifically, we estimate

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<sup>35</sup> This holds as long as the nominal fine is set so that it is higher than a proportional fine for poor people and the opposite holds for the rich.

<sup>36</sup> Notice that this preference is not internally consistent, as the tax burden under a flat tax scheme is a function of income, whereas nominal fines are independent of income. A tax counterpart to the nominal fine would be a head tax.

<sup>37</sup> Assuming the flat rate would be between the lowest and the highest brackets of a progressive tax policy.

<sup>38</sup> Because our subjects are students, their income may be erratic, so we asked about their family's wealth, rather than their own. We believe that the family wealth captures the background of our subjects as well as their expected income level in the future. The exact wording of the question was: "If we ordered all families in the Czech Republic according to their wealth, in which category would your family fall?" They were offered a sliding scale with the extremes marked as "The lowest 10 percent" and "The highest 10 percent", respectively.



$$Y_i = \beta_0 + \beta_1 P_i + \beta_2 W_i + \beta_3' X_i + e_i, \quad (2)$$

where  $P_i$  is respondent  $i$ 's political orientation (coded from 1 to 5 on the left-right scale);  $W_i$  is the wealth of her family;  $X_i$  is a vector of socio-demographic characteristics and other control variables; and  $e_i$  is the unexplained residual. The same regression is estimated for three alternative definitions of the outcome variable: (i) equal punishment in the first two original decisions (i.e. in the experimental phase); (ii) equal punishment in the appellate stage, where the respondents are presented both cases and asked to review their initial decisions; (iii) equal punishment in their original two decisions and in their appellate decisions.<sup>39</sup> The coefficients of interest are  $\beta_1$  and  $\beta_2$ ; they estimate the effect of political orientation and wealth, respectively, on the preference for equal punishment.

Table 4 reports the results. The estimates of the effect of political orientation on the probability that the respondent prefers the same fine for both rich and poor offenders is about 0.1 and is highly statistically significant across the three definitions of the outcome. The point estimate predicts that a person who describes her political views as “Right” has about a 40 percent higher probability of preferring equal fines for the rich and the poor, compared to a person who describes her political preferences as “Left”.<sup>40</sup> At the same time, wealth does not seem to influence the preference for the equal fine. All coefficient estimates in specifications (1) to (3) are essentially zero, although moderate positive or negative effects cannot be ruled out. Neither the respondent's sex or age appear to influence their preferences. The coefficient estimates on education level and field dummies are substantively large, however none is statistically significant.

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<sup>39</sup> Note that the third definition does not require the same punishment in all four decisions.

<sup>40</sup> That is moving on the 1 to 5 scale by 4 units times the coefficient estimate 0.1.

**Table 4:** Explaining the Rules

	Equal Fine to Rich and Poor (= 1)					Equal Prison to Rich and Poor (= 1)						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Intercept	-0.26 (0.29)	-0.15 (0.29)	-0.31 (0.27)	0.29 (0.76)	-0.25 (0.75)	-0.12 (0.74)	0.84*** (0.17)	0.85*** (0.16)	0.85*** (0.18)	-0.39 (0.62)	0.36 (0.53)	-0.49 (0.63)
Political views (1-5)	0.10*** (0.04)	0.07** (0.04)	0.11*** (0.03)	0.10*** (0.03)	0.07** (0.03)	0.10*** (0.03)	-0.01 (0.02)	-0.01 (0.02)	0.00 (0.02)	-0.02 (0.02)	-0.02 (0.02)	-0.02 (0.02)
Wealth (decile)	0.00 (0.03)	-0.01 (0.03)	-0.01 (0.02)	0.05 (0.07)	0.05 (0.07)	0.05 (0.07)	-0.02* (0.01)	-0.03* (0.02)	-0.04** (0.02)	0.02 (0.02)	0.02 (0.02)	0.02 (0.02)
Woman (=1)	0.05 (0.07)	0.06 (0.07)	0.05 (0.07)	0.05 (0.07)	0.05 (0.07)	0.05 (0.07)	-0.01 (0.05)	0.03 (0.05)	0.02 (0.06)	0.02 (0.06)	0.02 (0.06)	0.02 (0.06)
Age	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.00)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
Degree: master's	0.09 (0.10)	0.14 (0.10)	0.13 (0.10)	0.13 (0.10)	0.13 (0.10)	0.13 (0.10)	-0.03 (0.06)	-0.02 (0.06)	-0.04 (0.07)	-0.04 (0.07)	-0.04 (0.07)	-0.04 (0.07)
Degree: other	0.06 (0.13)	0.13 (0.13)	0.15 (0.13)	0.15 (0.13)	0.15 (0.13)	0.15 (0.13)	-0.04 (0.10)	-0.02 (0.10)	0.02 (0.10)	0.02 (0.10)	0.02 (0.10)	0.02 (0.10)
Field: law	-0.11 (0.14)	-0.07 (0.15)	-0.03 (0.14)	-0.03 (0.14)	-0.03 (0.14)	-0.03 (0.14)	0.13* (0.07)	0.20*** (0.05)	0.21*** (0.08)	0.21*** (0.08)	0.21*** (0.08)	0.21*** (0.08)
Field: humanities	0.21 (0.16)	0.22 (0.17)	0.29* (0.16)	0.29* (0.16)	0.29* (0.16)	0.29* (0.16)	0.11*** (0.04)	0.15*** (0.05)	0.19*** (0.05)	0.19*** (0.05)	0.19*** (0.05)	0.19*** (0.05)
Field: other	-0.26 (0.22)	-0.19 (0.23)	-0.18 (0.23)	-0.18 (0.23)	-0.18 (0.23)	-0.18 (0.23)	-0.11 (0.23)	-0.05 (0.24)	-0.03 (0.24)	-0.03 (0.24)	-0.03 (0.24)	-0.03 (0.24)
Case order: rich first				-0.07 (0.07)	-0.09 (0.07)	-0.08 (0.07)				-0.02 (0.05)	-0.04 (0.05)	-0.04 (0.05)
Case type: car accident				0.02 (0.07)	0.01 (0.07)	-0.04 (0.07)				0.04 (0.05)	0.01 (0.05)	0.03 (0.05)
Log time to finish survey				-0.03 (0.12)	0.07 (0.12)	0.03 (0.11)				0.21** (0.09)	0.10 (0.08)	0.22** (0.10)
Observations	211	211	211	215	215	215	211	211	211	215	215	215
R <sup>2</sup>	0.07	0.07	0.10	0.04	0.03	0.05	0.04	0.05	0.06	0.05	0.02	0.04

The outcome variables are coded as one if the subject assigned the same punishment in both cases and zero in other cases. Appellate decisions refer to subjects' decisions after the experimental phase when the subjects are presented both cases and their original decisions and given the opportunity to correct their choices. Explanatory variables come from the debriefing part of the survey: political views are coded on a 1-5 scale, where 1 stands for "Left" and 5 for "Right"; Wealth decile are subjects' estimates of the ranking of their families' wealth in the distribution. Woman is a dummy coded as one if the subject is a female and zero for males. Degree refers to the level of academic program pursued by the subjects, bachelor's degree is the omitted category. Field refers to the main field of study, business is the omitted category. Case order is a dummy coded as one if the subject received the rich-poor sequence of cases and zero for the opposite case. Case type is a dummy equal to one if the subject received the car accident sequence and zero for the bar battery sequence. Time to finish survey is the amount of time (measured in seconds) subjects spent answering the survey. Models are estimated by ordinary least squares. Robust standard errors are in parentheses: \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Specifications (3) to (6) check the robustness of the effect of politics to case sequence and offense type the respondents received, and we also include the (log) of time the respondent spent answering the survey. While respondents who first received the case with the rich defendant seem to be less likely to prefer an equal fine for both, the estimated effect is relatively small and not statistically significant. Neither the scenario nor the time spent on the survey seems to be related to the preference for equal fines. Looking at the effect of politics, it is remarkable that the coefficients are virtually the same as in specifications (1) to (3).

For comparison, Table 4 also reports results for preferences regarding equal prison sentences. Interestingly, the wealth of the respondent is estimated to have a negative impact on the preference for equal prison. The estimated effects are however small and only marginally statistically significant, so they should be interpreted with caution. None of the other socio-demographic variables is statistically significant and the estimates are small. Notably, the effect of political views is estimated to be zero. The estimates dummies for law and humanities students suggest that they are more likely to prefer equal punishment, compared to business students; however the coefficients are not statistically significant. Similarly the case sequence and crime type do not have any important effect on the preference for equal prison time for the rich and poor defendants, which is comforting. However, the time spent on the survey is positively related to the preference for equal prison term, and the effect is substantively large and statistically significant. This suggests that some of the few respondents who did vary the prison term across their cases may have paid less attention while answering the survey.

In summary, the results in Table 4 suggest that political views are strongly related to the preference for a nominal versus proportional fine, while respondents' wealth is unrelated to it. At the same time the preference for equal prison time for the rich and poor offenders is independent of politics. But which parts of the political scale drive the effect of politics on preferences about fines?

**Table 5:** Political Views and Equality of Punishment

	Equal Fine to Rich and Poor						Equal Prison to Rich and Poor					
	Leaning			Leaning			Leaning			Leaning		
	Left	Center	Right	Left	Center	Right	Left	Center	Right	Left	Center	Right
Counts												
No	7	8	44	46	16	16	0	0	10	11	6	6
Yes	1	10	20	32	31	31	8	18	54	67	41	41
Proportions of 'Yes'	0.12	0.56	0.31	0.41	0.66	0.66	1.00	1.00	0.84	0.86	0.87	0.87
Tests: proportion of 'Yes' = 0.5												
Chi-square test (p-value)	0.034	0.637	0.003	0.113	0.029	0.029	0.005	0.000	0.000	0.000	0.000	0.000
Binomial test (p-value)	0.070	0.815	0.004	0.141	0.040	0.040	0.008	0.000	0.000	0.000	0.000	0.000
Tests: Right and Left are equal												
Chi-square test (p-value)	0.014						0.647					
Fisher's exact test (p-value)	0.007						0.577					
Tests: Leaning Right and Leaning Left are equal												
Chi-square test (p-value)				0.392						0.200		
Fisher's exact test (p-value)				0.300						0.118		

Table 5 aims to gain a more detailed insight into the role of politics in explaining our findings. It cross-tabulates political views and preferences about the equality of fines and prison sentences, and reports a set of statistical tests of the observed patterns. For respondents who describe their political views as “leaning” either left or right, the hypothesis that the number of people who prefer an equal fine is the same as the number of those who prefer an income-contingent fine cannot be rejected. However, when we look at people who describe their views as “right” or “left”, the equality of populations is rejected at the 0.05 level of significance by three out of four tests, and by all four tests at the 0.1 level. Thus the effect of politics on preference about equality of fines is driven by the extremes. This is supported by testing whether the proportions among those in the “left” category are the same as the proportions of subjects among the “right”: Both reported tests comfortably reject that hypothesis. At the same time, the tests fail to reject the notion that “leaning left” respondents have the same preferences on equality of fines as those who are “leaning right”.

The same exercise was performed for preferences about equal prison time, and the results are reported in the right part of Table 5. They are very different from those for fines. All tests strongly reject that the number of people who prefer equal prison time for the rich and poor is the same as those who do not. At the same time, the hypothesis that the preferences of the “left” are the same as those of the “right” cannot be rejected.

In short, the results reported in this section suggest that there is a disagreement between left-wing and right-wing respondents as to whether fines should be income-contingent or fixed nominally. Our results also suggest that there is a common preference that punishment should not depend on an offender’s income. This holds for the “left”, “right”, and center, and for the relatively poor, as well as the relatively rich.

## CONCLUSIONS

There is little doubt that subjective factors affect the experience of punishment and, although their punishment is the same from a formal point of view, offenders are punished with different severity. One of the important factors that affects the subjective experience of punishment is the wealth of the offender. Therefore, policy proposals that paid more attention to those subjective factors might result in variation in punishment that is systematically related to wealth and income. Using an experimental approach, we

have studied people's preferences with respect to punishment and income, focusing on two most common types of punishment: incarceration and fines. Our findings suggest that subjective factors may—and perhaps should—affect the determination of fines. However, our findings are different in the case of incarceration, where variation is strongly rejected across the political spectrum, as well as across income categories. Neither do we find any systematic group-level biases that would suggest people want (perhaps subconsciously) to punish the rich and the poor differently.<sup>41</sup>

The subjectivism vs. objectivism controversy in the philosophy of criminal law is the dispute between global subjectivism ('all punishment should be subjective') and global objectivism ('all punishment should be objective'). However, there is a forgotten (but open) middle ground between the Scylla of global subjectivism and the Charybdis of global objectivism. Indeed, it is possible to interpret our findings as representing a challenge to both globalisms. Our findings demonstrate that people's intuitions about appropriate punishment are not general but vary across types of punishment. The respondents often preferred the subjective conception in the case of a monetary punishment; however, the overwhelming majority preferred the objective conception in the case of incarceration. Of course, the public's intuitions are, in principle, fallible, but they are a good reason to take the punishment-specific conception seriously.

We suggest that there is no need for legislators to choose a particular, 'one size fits all' theory of punishment. Perhaps the main question should rather be: what conception (subjective or objective, or a mix) of punishment is more appropriate for a particular type of punishment? The subjectivism versus objectivism debate has been predominantly concerned with punishment by incarceration. Our results suggest that shifting focus to other types of punishment may be desirable. We see more opportunities for public discussion and experimentation with subjectivist policy reforms in the realm of monetary punishment. Our findings suggest that—unlike for incarceration—the question about more appropriate considerations of monetary punishment seems to be an open issue.

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<sup>41</sup> Note that this finding is generally consistent and complements previous findings by Theodore Eisenberg, et al, cited in note 12.

## APPENDIX

### A. Randomization Checks

Let  $Y$  be a demographic characteristic and  $i$  an indicator of each respondent, we estimate

$$Y_i = \beta_0 + \beta_1 C_i + \beta_2 O_i + e_i, \quad (\text{A1})$$

where  $C_i$  is a dummy variable equal to 1 if respondent  $i$  received the car accident scenario and 0 if she received the bar battery scenario;  $O_i$  is a dummy set to 1 if the respondent first received the case with the rich defendant and it is 0 for those who first received the poor defendant; finally  $e_i$  is the unexplained residual.  $\beta_0$  is the intercept estimating the mean of  $Y_i$  for the group who received a sequence of two battery cases and had the poor defendant as their first case.  $\beta_1$  and  $\beta_2$  are the coefficients of interest and they estimate the difference of mean  $Y_i$ , from the intercept, for the group who received the car accident scenario and for the group who received the rich defendant as their first case, respectively.

The regression thus tests whether the other groups differ; if the randomization worked as intended, the coefficients  $\beta_1$  and  $\beta_2$  should be close to zero. We estimate regression (1) for seven alternative characteristics of our subjects from the demographic section of our survey. Results are reported in Table A1.

**Table A1: Sample and Randomization**

	Sex	Age	Student	Bachelor	Business	Wealth	Politics
Constant	0.48*** (0.06)	22.06*** (0.5)	0.97*** (0.02)	0.60*** (0.06)	0.82*** (0.05)	4.93*** (0.19)	3.67*** (0.13)
Car accident (=1)	0.05 (0.07)	-0.0 (0.6)	-0.01 (0.02)	-0.02 (0.07)	0.04 (0.05)	0.12 (0.21)	-0.08 (0.14)
Rich first (=1)	-0.03 (0.07)	0.2 (0.67)	-0.00 (0.02)	0.07 (0.07)	-0.01 (0.05)	0.20 (0.21)	0.03 (0.14)
Observations	211	215	215	215	215	215	215
R <sup>2</sup>	0.00	0.00	0.00	0.01	0.00	0.01	0.00

Variable definitions: Sex is coded as 0 for men and 1 for women (four observations are missing). Student is coded as 1 if the respondent is a student and 0 otherwise. Bachelor is coded as 1 if the respondent pursues a bachelor degree and 0 otherwise. Business is coded as one if the respondent's major is in Business or Economics and 0 otherwise. Wealth asks students to rank their families' wealth or income on 10 decile scale. Politics measures answers to a question about their political views in the realm of public finance and redistribution, it is coded as: 1 "Left", 2 "Leaning to left", 3 "Center", 4 "Leaning to right", and 5 "Right". Standard errors are in parentheses: \* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ .

## *B. Instructions and the Scenarios*

### **Introduction**

We are interested in people's attitudes toward pecuniary and prison punishments. You will be presented with two criminal cases and asked to decide on a punishment in each of them. You are completely free to select the sentence you see appropriate, in other words, no particular jurisdiction applies. The only requirement is that you decide *one case at a time*; and only after deciding a case move to the next one—as a real judge would. You can return to decided cases, however you *cannot* revise your decisions. After you make your choices, we ask you few more questions about your decisions and about you. This form is anonymous, please do not state your name anywhere on it.

*(Next page)*



1. The Car Accident Scenario – Rich Defendant in the First Case

**Case 1**

**Facts:** On February 2, 2012, the convicted defendant, a 40-year old programmer, drove home from his friend’s bachelor party and collided with another car at approximately 9.35 p.m. after passing a red light, injuring a 29-year old mother of two children. He had 0.26 percent alcohol content in his blood at the time of the accident.

The victim suffered brain trauma, a broken hipbone, and psychic shock, putting her out of work for 4 months. 6-months additional physical therapy was necessary in order to fully heal her injury. An expert established the total damages (consisting of medical expenses, forgone earnings, compensation for pain and suffering, and car repair costs) to be 240,000 CZK.

Damages were paid by the defendant’s insurance company. However, because of the involvement of alcohol, the defendant is obliged to fully compensate the insurance company. The defendant’s monthly after-tax income in the last two years was 80,380 and 82,600 CZK. He has no prior criminal record.

**Task:** Suppose you are a judge who must decide on a punishment, a combination of a prison term and a fine, for the convicted defendant. No particular jurisdiction applies; the sentence is entirely your decision.

**Your decision**

**Fine:** Czech Crowns.

**Prison term:** days.

*(Next page)*

## Case 2

**Facts:** On February 2, 2012, the convicted defendant, a 40-year old plumber, drove home from his friend's bachelor party and collided with another car at approximately 9.35 p.m. after passing a red light, injuring a 29-year old mother of two children. He had 0.26 percent alcohol content in his blood at the time of the accident.

The victim suffered brain trauma, a broken hipbone, and psychic shock, putting her out of work for 4 months. 6-months additional physical therapy was necessary in order to fully heal her injury. An expert established the total damages (consisting of medical expenses, forgone earnings, compensation for pain and suffering, and car repair costs) to be 240,000 CZK.

Damages were paid by the defendant's insurance company. However, because of the involvement of alcohol, the defendant is obliged to fully compensate the insurance company. The defendant's monthly after-tax income in the last two years was 12,270 and 13,330 CZK. He has no prior criminal record.

**Task:** Suppose you are a judge who must decide on a punishment, a combination of a prison term and a fine, for the convicted defendant. No particular jurisdiction applies; the sentence is entirely your decision.

### Your decision

**Fine:** Czech Crowns.

**Prison term:** days.

*(Next page)*

## 2. The Bar Battery Scenario – Poor Defendant in the First Case

### Case 1

**Facts:** On February 2, 2012, the convicted defendant, a 29-year old plumber, had a squabble with another person in a bar and later assaulted him. The injured person, comparatively to the assailant, was of smaller body constitution and has suffered medium to serious injuries as a result of the assault.

Specifically, the injuries included a serious brain trauma, multiple cheekbone fracture (surgical intervention was necessary), and kidney contusion. He was hospitalized for 14 days and was subsequently out of work for three and a half months.

A court expert established the total damages (consisting of medical expenses, forgone earnings, and compensation for pain and suffering) to be 240,000 CZK. The defendant must pay these damages to the injured person.

The defendant's monthly after-tax income in the last two years was 12,270 and 13,330 CZK. Three years earlier, he had been convicted after causing a car accident while being drunk, causing a serious injury. He had been sentenced to a monetary sanction and a six months prison sentence conditionally suspended for one year.

**Task:** Suppose you are a judge who must decide on a punishment, a combination of a prison term and a fine, for the convicted defendant. No particular jurisdiction applies; the sentence is entirely your decision.

### Your decision

**Fine:** Czech Crowns.

**Prison term:** days.

*(Next page)*

## Case 2

**Facts:** On February 2, 2012, the convicted defendant, a 29-year old programmer, had a squabble with another person in a bar and later assaulted him. The injured person, comparatively to the assailant, was of smaller body constitution and has suffered medium to serious injuries as a result of the assault.

Specifically, the injuries included a serious brain trauma, multiple cheekbone fracture (surgical intervention was necessary), and kidney contusion. He was hospitalized for 14 days and was subsequently out of work for three and a half months.

A court expert established the total damages (consisting of medical expenses, forgone earnings, and compensation for pain and suffering) to be 240,000 CZK. The defendant must pay these damages to the injured person.

The defendant's monthly after-tax income in the last two years was 80,380 and 82,600 CZK. Three years earlier, he had been convicted after causing a car accident while being drunk, causing a serious injury. He had been sentenced to a monetary sanction and a six months prison sentence conditionally suspended for one year.

**Task:** Suppose you are a judge who must decide on a punishment, a combination of a prison term and a fine, for the convicted defendant. No particular jurisdiction applies; the sentence is entirely your decision.

### Your decision

**Fine:** Czech Crowns.

**Prison term:** days.

*(Next page)*

## Appeal

Now, you can revise your previous decisions. Suppose you are a judge of a court of the second instance dealing with an appeal. Abstract away from the *reformatio in peius* principle. It means, you can alter each a decision without limitation or uphold it. Both first-instance decisions are at your disposal.

*(Next page)*

Subjects are now presented both cases in full description simultaneously. The cases include their earlier decisions on punishment. Below each case are prompts, in which they are requested to state their “second stage” decisions on punishments.

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