

## **Tax fraud punishment, responsibility for tax fraud, and observers' tax compliance**

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### **ABSTRACT**

We experimentally investigate how a tax fraud perpetrator's retributive outcome influences other individuals' tax compliance decisions. Using insights from the social psychology literature on punishment reactions, we develop and find support for a model which posits a conditional indirect effect of perceptions of responsibility for tax fraud on taxpayers' compliance intentions. The indirect effect operates through perceptions of punishment deservingness and affective reactions. We also find that the association between punishment deservingness and affective reactions is conditional on punishment actually occurring. Overall, others' tax compliance intentions are highest when observers perceive that a tax fraud perpetrator is highly responsible for wrongdoing and is punished. These results have implications for tax and other authorities when deciding whether or not to prosecute a fraud perpetrator.

Keywords: retributive justice; tax compliance; punishment reactions; punishment deservingness; responsibility; affective reactions

Acknowledgements: The authors acknowledge financial support from the CPA Ontario Centre for Capital Markets and Behavioural Decision Making, Lazaridis School of Business and Economics, Wilfrid Laurier University. The authors also thank participants at the Canadian Academic Accounting Association annual meeting (2020) and the Accounting, Behavior & Organizations research conference (2020) for helpful comments. We also thank Khim Kelly, Steven Salterio, Leslie Berger, Lan Guo, Adam Presslee, Michael Wynes and workshop participants at the University of Waterloo and Wilfrid Laurier University for helpful comments.

## 1. Introduction

An international tax scheme known as the ‘KPMG – Isle of Man tax dodge’ (Cashore & Zalac, 2019), and nicknamed ‘The Isle of Sham’, surfaced in Canada in 2017, five years after it was discovered by the Canadian tax authority (Canada Revenue Agency; CRA). In this scheme, wealthy Canadian taxpayers were advised by accounting firm KPMG to invest in an Isle of Man shell company. Their investments were eventually returned to them as tax-free “gifts”. Canada’s tax authority admitted it was a grossly negligent offshore tax scheme that was intended to deceive federal regulators (Cashore, 2019). However, rather than punishing the participants of this scheme, the CRA offered them a secret amnesty, an outcome that was leaked to the public. The participants of the scheme simply had to repay the taxes owing without interest, penalties, or any criminal charges (Cashore, 2019).

Individuals care about retributive justice and whether perpetrators of a fraud receive a punishment they deserve (Lerner, 1980; Wenzel, Okimoto, Feather, & Platow, 2008). Failure by tax and other authorities to impose punishments on deserving individuals can have negative spillover effects on observers. Specifically, failure to convict a perpetrator of tax fraud could signal that a tax authority is inept, and that a nation’s tax system lacks integrity. In turn, observers’ tax compliance could be adversely impacted. Conversely, a tax authority which successfully convicts a tax evader can signal competence in preserving the integrity of a tax system, which may possibly improve other taxpayers’ compliance (Braithwaite, 2003).

Although there is an extensive tax compliance literature pertaining to individuals (e.g., Alm, 2019; Slemrod, 2017), this literature has yet to consider how a tax evader’s punishment deservingness and subsequent punishment, or lack thereof, impacts observers’ willingness to be tax compliant. As noted by Kirchler (2007, pp.87), “retributive justice has rarely been

investigated in the field of tax compliance.” In the broader accounting literature, since there is evidence that others’ unethical behavior in an organization can lead observers within that organization to rationalize their own dishonest behavior (Brown, 2014), a similar phenomenon could also occur in the public domain regarding taxes. In a corporate tax setting, there is empirical evidence that firms adopt more aggressive tax-planning strategies when industry competitors exhibit unrestrained aggressive tax planning behavior (Armstrong, Glaeser, & Kepler, 2019). If so, it follows that individuals could likewise mimic the unethical tax behavior of others who are never punished.

The objective of this research is to understand why and how individual taxpayers’ compliance is influenced by the punitive response of a tax authority which discovers tax evasion. To this end, we develop a tax compliance model which leverages Feather’s (1998) social-cognitive process model of reactions to punishment. Feather’s (1998) model predicts that perceived responsibility for a transgression indirectly influences affective reactions through deservingness perceptions. However, as Feather’s model (1998) does not predict behavioral intentions, we use empirical tax compliance literature on affect to predict a positive association between affective reactions and tax compliance intentions (Christian & Alm, 2014; Maciejovsky, Schwarzenberger, & Kirchler, 2012): the more satisfied and pleased someone is with another’s punishment, the more likely they are to be compliant.

To test our model, we conduct an experiment with 399 adult Canadian taxpayers. Participants were given a scenario similar to the KPMG – Isle of Man tax scheme. Participants learned that a number of wealthy taxpayers had invested funds in a tax shelter on the Isle of Man, and were subsequently audited by the tax authority. The audit revealed that the tax shelter was a scam that was intended to deceive the government. We manipulated whether or not the taxpayers

were solely responsible for participating in the fraud scheme and whether or not the taxpayers were punished by the tax authority. We also measured perceptions of punishment deservingness, affective reactions, and tax compliance intentions. Our experiment represents an extension of Feather's (1998) model because Feather's (1998) model assumes that a wrongdoer is punished. We relax this assumption by manipulating whether or not a punishment actually occurs. Our other manipulated independent variable is responsibility, as taxpayers involved in a tax haven arrangement may be advised by a professional, and may not be perceived to be solely responsible for their fraud.

Results provide strong support for our model. We find an indirect effect of perceived responsibility for a tax fraud on observers' tax compliance intentions through perceptions of punishment deservingness and affective reactions. Moreover, the effect of punishment deservingness on affective reactions is moderated by whether or not a punishment occurs. Specifically, observers' tax compliance is highest when a tax evader is solely responsible for the fraud and subsequently punished. These results do not change when economic variables known to influence tax compliance are controlled for (notably audit likelihood and detection likelihood; Allingham & Sandmo, 1972; Andreoni, Erard, & Feinstein, 1998).

Our study contributes to the tax and accounting literatures in the following ways. Our primary contribution is to extend the tax compliance literature by showing that perceived responsibility and punishment occurrence can increase tax compliance if taxpayers perceive that a tax authority has been retributively just in meting out a punishment (and not from increases in audit likelihood or detection likelihood assessments). In so doing, our results highlight a way in which accounting can be a social control mechanism with restraining effects (Walker, 2016).

We contribute to the retributive justice literature by providing empirical support for Feather's (1998) model of reactions to penalties, and by providing empirical evidence on how observers respond to others' punishment. Existing empirical literature on retributive justice examines how retributive justice perceptions can be strengthened, but does not examine behavioral effects on others (Wenzel & Okimoto, 2016). We also contribute to the tax compliance literature on retributive justice by examining peer effects; that is, how taxpayers respond to other taxpayers' compliance. Research on retributive justice in a tax compliance setting is scant, with just two empirical studies (Kogler, Muehlbacher, & Kirchler, 2015; Mahangila & Holland, 2015), discussed subsequently, neither of which examine how taxpayers' compliance intentions may be impacted by retributive justice effects of others' tax fraud. Finally, our findings extend accounting research on fraud by showing that the occurrence of a punishment is important if a fraud is to have any deterrent effect on observers. Existing accounting research on fraud has considered extrinsic motivations to encourage honest reporting, primarily in a budgeting context (Murphy, Wynes, Hahn, & Devine, 2020), but in general fails to consider the impact on observers of a fraud perpetrator's potential punishment. Accounting research on fraud nonetheless acknowledges that punishment is a contextual variable that should be studied in connection with fraud (Murphy, 2012).

The remainder of the paper is organized as follows. In the next section, we review relevant literatures to situate our research and to develop our hypotheses. Section three describes our experiment, and section four reports our results. We conclude with a discussion of our findings.

## **2. Background literature and hypotheses development**

### ***Retributive justice***

Retributive justice is the notion that, “an offender, having violated rules or laws, deserves to be punished and, for justice to be reestablished, has to be punished in proportion to the severity of the wrongdoing” (Wenzel et al., 2008, pp. 375). Retributive justice involves subjective punishment of individuals or groups who have violated laws. Punishment is a negative outcome imposed on an offender by another party in response to a wrongdoing. Since retributive justice requires that people get what they deserve, punishment is the mechanism for serving justice on an offender (Wenzel & Okimoto, 2016). Moreover, the punishment is not compensatory justice (Darley & Pittman, 2003), in which a wrongdoing is simply undone, but is an additional response to the wrongdoing. In a case of tax fraud, repayment of taxes evaded is compensatory justice, but punishment would occur over-and-above the tax repayment, and is meted out as a fine, which is sometimes accompanied by imprisonment.

Punishment repairs or satisfies a sense of justice because punishment is a moral necessity, felt as an emotion that drives action. Someone who violates agreed-upon rules, norms, and laws makes a symbolic statement about the values underlying these requirements and undermines community consensus about what is just. Thus, punishment can be a moral response to a wrongdoing, as it attempts to regain consensus and reassert the validity of the values threatened by the offense (Wenzel & Okimoto, 2016). In the case of tax evasion, punishment reasserts that tax evasion is morally wrong, as tax laws are meant to be obeyed for the collective good of a society. Laws would thus tend to be obeyed if someone is punished, as the morality of the law is reinforced.

Individuals derive satisfaction from seeing others punished because they get an emotional reward, which can be feelings of satisfaction, increased mood, or a release of negative emotions

(Feather, Wenzel, & McKee, 2013; Wenzel & Okimoto, 2016). Moreover, a key reason why individuals derive satisfaction or pleasure from others' punishment is because of deservingness, which is a perception of outcomes that are earned or achieved as a result of a person's actions (Feather, 1999). Punishment, which is a negative outcome, helps to restore a sense of justice between a victim and an offender if the negative outcome is deserved (Feather, 1999).

### ***Retributive justice and tax compliance***

Justice (or fairness) is a construct with multiple comparison points based upon comparative judgments (Colquitt, 2001). These comparisons can involve outcomes (distributive justice), procedures (procedural fairness), interpersonal treatment (interactional justice), and laws that are broken and subsequently amended (retributive justice). In general, favourable justice perceptions lead to cooperative and compliant behavior with an authority (Skarlicki & Folger, 1997). There is a sizeable literature on tax compliance intentions (e.g., Alm, 2019; Alm, Kirchler, & Muelbacher, 2012; Kornhauser, 2007; Slemrod, 2017) which identifies many relevant factors for the compliance decision, including dimensions of justice.

The influence of tax compliance intentions on perceptions of distributive justice (e.g., Kim, Evans, & Moser, 2005; Moser, Evans, & Kim, 1995), procedural justice (e.g., Verboon & Van Dijke, 2011; Worsham, 1996;), and interactional justice (e.g., Wenzel, 2006; Farrar, Kaplan, & Thorne, 2019) have been investigated. However, this literature has scarcely examined how retributive justice impacts tax compliance, despite many tax academics suggesting that publishing reports about the convictions of tax offenders, using mass media, could reinforce tax compliance as the ethical form of behavior by appealing to people's perceptions of retributive justice (Alm, 2012; Alm et al., 2012; Blank & Levin, 2010; Braithwaite & Braithwaite, 2000;



Datt, 2016; Devos & Zackrisson, 2015; Lederman, 2003; Maciejovsky et al., 2012; Mazza, 2003; Raskolnikov, 2009; Wenzel et al., 2008). In the tax context, retributive justice refers to the propriety of the punishment for a tax fraud (Kirchler, 2007) and the appropriateness of sanctions in case of a tax offense (Kogler et al., 2015).

We are aware of just two empirical studies (Kogler et al., 2015; Mahangila & Holland 2015) which examine the association between retributive justice and tax compliance. Kogler et al. (2015) conducted a survey of 476 Austrian self-employed taxpayers and found evidence of an indirect association between retributive justice and tax compliance through perceptions of tax authority power and trust. Participants were asked generic statements about the Austrian legal system and their perceptions of the extent to which tax evaders were punished. Mahangila & Holland (2015) surveyed 257 owners of small business corporations in Tanzania and asked questions about retributive justice for their offense of keeping incomplete records and subsequent penalties for not paying their taxes on time. In both tax scenarios there was a positive association between retributive justice and tax compliance intentions.

Although these studies have provided preliminary insights on the association between retributive justice and tax compliance, some empirical inconsistencies and theoretical gaps leave questions unanswered. Empirically, the results in these two studies are inconsistent, as both direct and indirect effects of retributive justice on tax compliance were found. Moreover, the contexts were different, as Kogler et al. (2015) investigated others' tax evasion whereas Mahangila & Holland (2015) investigated one's own administrative malfeasance. Furthermore, the generalizability of the results in both studies is limited, as respondents were self-employed. Theoretically, neither study explained how the presence or absence of punishment was expected to influence tax compliance, and assumed that noncompliant taxpayers were punished.

Consequently, much remains to be learned about retributive justice in the tax context, and specifically why retributive justice perceptions amongst the general public could influence their tax compliance intentions when others' tax evasion is known and either unpunished or punished. In the broader retributive justice literature, what remains to be understood is the interplay between psychological factors and institutional systems to uphold social and moral order (Wenzel & Okimoto, 2016).

To address these gaps, we develop a model of reactions to others' tax fraud punishment and their effect on observers' compliance. The development of the model and related hypotheses are presented below.

### ***Model development and hypotheses***

Feather (1998) developed a social-cognitive process model of reactions to punishment. The central constructs in this model are responsibility for a transgression, punishment deservingness, and affective reactions. In this model, responsibility for a transgression leads to punishment deservingness, which in turn leads to affective reactions.<sup>1</sup> Punishment deservingness is a perception that someone has earned a negative outcome, and affective reactions are emotional responses to punishment (Feather, 1998). We adapt the central tenets of Feather's (1998) model to the tax context.

Responsibility is synonymous with legal culpability. Unless a protagonist has been judged to cause harm, there is no reasonable basis for considering that person to be responsible or blameworthy. Moreover, if a protagonist has caused harm, their responsibility for that harm may be inferred, as long as their behavior was done without external influence (Schultz,

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<sup>1</sup> In Feather's (1998) model, seriousness of offense is endogenous to responsibility and harshness of penalty is endogenous to punishment deservingness. In our study, we control for these variables.

Schleifer, & Altman, 1981). Relatedly, punishment refers to the consequences which a protagonist may suffer for the harm they have caused and for which they have been responsible (Schultz et al., 1981). Consequently, Feather (1998) predicts that someone who is responsible for a transgression deserves to be punished for that transgression, as punishment presupposes a judgment of moral responsibility.

When applied to the tax context, these insights suggest that a perpetrator of a tax fraud who is judged to be responsible for their actions will be perceived to be deserving of punishment. Consequently, we make the following prediction:

*HYPOTHESIS 1. There will be positive association between responsibility for a tax fraud and punishment deservingness.*

The next link in Feather's (1998) model is a positive association between punishment deservingness and affective reactions. Affect is a psychological term referring to both mood and emotion (Fiske & Taylor, 1991; Van den Bos, 2003). Feelings associated with seeing an offender punished are associated with the degree to which an offender is judged to deserve a punishment: the more (less) an offender is perceived to deserve a punishment, the more (less) likely it is that an observer would report feeling satisfaction (dissatisfaction) and pleasure (displeasure) about the punishment (Feather, 1998). Thus, we would expect that perceptions of punishment deservingness for tax fraud are positively associated with affective reactions to punishment.

Feather's (1998) model assumes that offenders are punished. However, in the tax context, known tax evaders are not always punished, as was the case in the KPMG – Isle of Man tax scheme and other global tax schemes.<sup>2</sup> We suggest that the positive association between deservingness and affective reactions is conditional on the presence or absence of a retributive

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<sup>2</sup> The Investigative Consortium of Investigate Journalists documents that some, but not all, tax authorities punished parties identified in the Panama Papers (Wilson-Chapman, Cucho, & Fitzgibbon, 2019)

outcome. That is, an observer will feel highly satisfied if a tax fraud perpetrator is punished, but will feel less satisfied if a tax fraud perpetrator is unpunished. Thus, we expect the presence or absence of a retributive outcome to moderate the association between deservingness and affective reactions.<sup>3</sup> Consequently, we make the following prediction:

*HYPOTHESIS 2. The positive association between punishment deservingness and affective reactions will be moderated by punishment outcome. Specifically, this association will be stronger when a tax fraud perpetrator is punished rather than unpunished.*

Feather's (1998) model predicts why someone will react to a punishment, assuming a punishment occurs, but does not predict any behavioral response subsequent to affective reactions. As there is tax compliance literature supporting a positive association between affect and tax compliance intentions (Christian & Alm, 2014; Maciejovsky et al., 2012), we rely on this literature for our next prediction. Maciejovsky et al. (2012, pp. 347), who conducted three studies investigating the role of affect on tax compliance behavior, concluded, "We found that emotions ... affect behavioral intentions." Christian & Alm (2014) also found a positive association between several emotions and tax compliance intentions. As emotions are synonymous with affect (Fiske & Taylor, 1991; Van den Bos, 2003), these two studies found a positive association between affective reactions and tax compliance intentions. We thus expect that affective reactions will similarly influence tax compliance intentions in a retributive context.<sup>4</sup> More specifically, we expect that affective reactions will be an antecedent of taxpayers'

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<sup>3</sup> We do not expect the presence or absence of a retributive outcome to moderate the association between responsibility and deservingness. Feather (1996, pp. 273) notes that deservingness affects judgments about a penalty, which implies that a penalty (punishment) occurs after deservingness perceptions are formed. As shown in our supplemental analysis, there is no significant interaction effect of punishment occurrence and responsibility on deservingness.

<sup>4</sup> Tax compliance intentions are a proxy for tax behavior. As Bobek, Hageman, & Kelliher (2013, pp. 458) state, "Concerns that behavioral intentions might not map directly to taxpayers' actual behavior in a situation are partially mitigated by the fact that a joint investigation of actual and hypothetical tax evaders (Webley, Cole, & Eidjar, 2001) indicated that both groups had similar attitudes and motivations". As well, there is strong empirical support (Sheeran, 2002) for several psychological models, including the theory of planned behavior (Carpenter & Reimers,

compliance intentions such that taxpayers with feelings of satisfaction and pleasure are expected to have higher tax compliance intentions. This discussion leads to our third hypothesis:

*HYPOTHESIS 3. There will be a positive association between taxpayers' affective reactions and their tax compliance intentions.*

Overall, we predict a moderated mediation model such that there is an indirect effect of a perpetrator's responsibility for tax fraud on observers' tax compliance intentions through perceptions of punishment deservingness and affective reactions. Moreover, we predict that the occurrence of a tax fraud punishment outcome will moderate the relation between punishment deservingness and affective reactions, such that compliance will be higher if a tax offender is actually punished, and lower if a tax offender is unpunished. This discussion leads to our fourth hypothesis:

*HYPOTHESIS 4. There will be an indirect effect of responsibility on tax compliance intentions through punishment deservingness and affective reactions. Moreover, this mediation effect will be moderated by punishment occurrence.*

Relatedly, in a situation where an offender is highly (solely) responsible for their transgression and is punished, we predict this outcome will result in the highest compliance, as observers will have the most satisfaction and pleasure in the punishment outcome. In comparison, in a situation where an offender is still punished but is less responsible, we expect that compliance will be lower, because observers will have lower levels of satisfaction and pleasure. Furthermore, if an offender is unpunished, we expect even lower compliance because observers will have even lower levels of satisfaction and pleasure, regardless of the offender's

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2005), that affirm that an individual's intention is the strongest predictor of their behavior. In the tax compliance literature, it is common to measure tax compliance intentions rather than actual tax behavior due to social desirability bias (e.g., Blanthorne & Kaplan, 2008; Bobek et al., 2013; Farrar, Kaplan, & Thorne, 2019; Verboon & Van Dijke, 2007).

perceived responsibility. When offenders are unpunished, observers have a desire to see a punishment occur so that offenders get the outcomes they deserve (Ellard, Harvey, & Callan, 2016; Hafer, 2000; Lerner, 1980). Thus, as long as offenders go unpunished, observers will not be as satisfied or pleased as when an offender is punished. Consequently, we make several final predictions, pertaining to the specific compliance intentions for these different situations pertaining to responsibility and punishment occurrence. These hypotheses are stated as follows:

*HYPOTHESIS 5A. Observers' affective reactions will be highest when an offender is highly responsible for their transgression and is punished.*

*HYPOTHESIS 5B. Tax compliance intentions will be highest when an offender is highly responsible for their transgression and is punished.*

Figure 1 visually depicts the model discussed above. The theoretical model is included in Panel A, while the study-specific model is included in Panel B.<sup>5</sup>

[insert Figure 1 about here]

### **3. Methodology**

To test our model, we use an experimental approach, which allows us to isolate several variables of interest to observe their effect on other variables. Below we discuss the design, participants, experimental procedures and task, independent variables, and dependent variables for the experiment.

#### ***Design***

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<sup>5</sup> These aforementioned streams of literature do not enable us to predict direct effects of responsibility, punishment occurrence, or punishment deservingness on tax compliance intentions, nor do they allow us to predict a direct effect of responsibility on affective reactions. Nevertheless, we investigate non-hypothesized effects in a subsequent supplemental analysis.

The experiment utilized a 2 x 2 between-participants design. The design fully crossed perceived *responsibility* for the tax fraud (lower versus higher) and *punishment occurrence* (present versus absent).

### ***Participants***

Participants were adult Canadian taxpayers, recruited by a consumer research firm (Prolific). To be representative of a typical taxpayer population, we requested that our participants be randomly selected according to age and gender. Age was restricted to participants between the ages of 20 and 70. We requested 100 participants per experimental condition and received a total of 399 usable responses from participants who passed two attention-check questions.<sup>6</sup> Descriptive statistics for demographic measures are provided in Table 1. As shown on Table 1, 53% of our sample is male, with an average age of 34.8 years.<sup>7</sup>

[insert Table 1 about here]

### ***Experimental Procedures and Task***

Potential respondents received an email invitation from the consumer research firm, inviting them to participate in a questionnaire about how people respond to accounts of tax fraud

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<sup>6</sup> Sample sizes per cell varied from 97 to 102. To be included in the sample, participants had to correctly answer two attention-check questions (see Oppenheimer et al., 2009), corresponding to factual information in the experimental scenario. The first question also served as a manipulation check. The two questions were placed just after the dependent variable and ensured participants had read the scenario carefully. The two questions are contained in the Appendix. Prolific requests that participants be given two attempts to correctly answer attention-check questions before they are terminated from the study. All 399 participants answered the attention-check questions and no one was terminated from the study. Our Qualtrics software indicated that the quotas had been reached when the total participants were at 399 rather than 400.

<sup>7</sup> According to Statistics Canada's age population estimates in 2019 (<https://www150.statcan.gc.ca/t1/tb11/en/tv.action?pid=1710000501>), the median age in Canada is 40.8. The median age of our sample is 32.0, but includes individuals ages 20 to 70, whereas the Statistics Canada median age includes all ages. According to Statistics Canada's income tables by age group in 2017 (the most recent year with data; <https://www150.statcan.gc.ca/t1/tb11/en/tv.action?pid=1110023901>), the median income in Canada by age group was \$38,400 (ages 25 to 34), \$48,000 (ages 35 to 44), \$49,100 (ages 45 to 54), \$41,300 (ages 55 to 64), and \$28,400 (age 65 and over). When we compared our data segmented similarly by age group, the median score for income category was 3 (\$50,000 - \$74,999) for all age categories except age 65 and over, which had a median score of 2 (\$25,000 - \$49,999). The trend regarding income and age in our sample appears similar to that in the broader Canadian population. In our statistical results, neither age nor income were significantly correlated with affective reactions or tax compliance intentions.

in the news. Individuals who wanted to participate clicked on a link and were randomly directed to one of the experimental conditions. Participants who passed both attention-check questions and finished the survey were given a cash payment of £1.15.

Participants were told about a local entrepreneur named Chris who owns a food truck. Chris receives cash from customers, and is in the process of preparing the year's tax return. On the next screen, participants read a news story about a number of wealthy individuals who invested funds in a company on the Isle of Man to pay less taxes. The Canadian tax authority (CRA) subsequently audited these individuals and discovered that the tax shelter was a bogus arrangement that was intended to deceive the Canadian government. As discussed below, the scenario contained the independent variables. In response to the scenario, participants completed several questions about Chris's tax compliance intentions, manipulation checks, punishment deservingness perceptions, affective reactions, and others relating to control variables and demographic measures. The Appendix contains the experimental scenarios and questionnaire.<sup>8</sup> Participants were instructed on the screen to imagine that they were Chris when responding to all non-demographic statements. No pronouns were given with respect to Chris to ensure gender neutrality.

We followed the vignette construction suggestions of Weber (1992) and Hughes & Huby (2004). These suggestions include placing the ethical situation in a business context, which we did by providing information about an entrepreneur preparing their tax return; making the scenarios relevant, which we did by adopting a news story using information and language from actual KPMG – Isle of Man tax scheme media sources and using actual tax evasion punishment

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<sup>8</sup> Except for the four tax compliance statements and attention-check and manipulation check questions, all other questionnaire items prior to the demographic measures were presented in random order across several screens. Across the entire instrument, for any measures with multiple items, the groups of items were presented in random order.



as prescribed by Canadian tax law and the Criminal Code of Canada; using a theoretical framework when constructing scenarios, which we did by integrating Feather's (1998) retributive justice model; keeping the vignettes short, so as to maintain reader interest; and pre-testing the wording of the vignette on several hundred adult taxpayers, in which they had the opportunity to provide open-ended feedback.

### ***Independent Variables***

#### *Responsibility*

We operationalized *responsibility* by describing how the taxpayers made the decision to invest in the tax scheme. We manipulated *responsibility* by varying the extent to which taxpayers made their decision with external influence (Schultz et al., 1981). In the higher *responsibility* condition, the taxpayers made their decision independently, whereas in the lower *responsibility* condition, the taxpayers were advised externally by a tax advisor.<sup>9</sup> Respondents in the higher *responsibility* condition were told, "Several years ago, a number of wealthy individuals read a brochure about paying less taxes by investing funds in a company on the Isle of Man. The individuals acted on their own, didn't ask anyone for advice, and made the investment." Respondents in the lower *responsibility* condition were told, "Several years ago, a large accounting firm approached a number of wealthy clients. The accounting firm told them they could pay less taxes by investing funds in a company on the Isle of Man. The clients followed this advice, and made the investment."<sup>10</sup>

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<sup>9</sup> In the statistical analysis, the higher responsibility condition is coded as '+1', whereas the lower responsibility condition is coded as '0'.

<sup>10</sup> A news story (Cashore, 2015) reports that one of KPMGs clients who invested in the Isle of Man tax scheme said that he was unaware of Canadian tax laws when he emigrated from South Africa in the mid-1990s. The taxpayer said, "I went to the best people in the country. I'm being drawn into this, and I don't think I should have been in the first place." It is unclear whether an observer would perceive that a client in this type of situation is responsible for the tax evasion, or not.

### *Punishment occurrence*

*Punishment occurrence* was operationalized by describing the actual punishment for tax evasion as allowed by Canadian tax law and the Criminal Code of Canada, which is a fine and jail sentence.<sup>11</sup> Although a jail sentence is not mandatory, it commonly accompanies tax frauds of high magnitude, as would have happened in the KPMG – Isle of Man tax dodge. For this reason, we included both forms of punishment in the scenario. We manipulated *punishment occurrence* by stating that the taxpayers who participated in the tax scheme were punished or unpunished.<sup>12</sup> In all conditions, the news story first stated, “The taxpayers had to repay all the taxes they evaded, which is a standard practice and not a punishment.” We stated this fact to distinguish between compensatory justice, which in the tax context is a repayment of taxes, and retributive justice, which involves an actual punishment, over-and-above a tax repayment. Then, in the condition where the punishment occurred, the news story stated, “Moreover, the taxpayers were then punished by being fined and sentenced to jail for several years.” In the condition where the punishment did not occur, the news story stated, “However, the taxpayers were never punished. They were neither fined nor sentenced to jail.”<sup>13</sup>

### *Dependent Variables*

The dependent variables are *punishment deservingness*, *affective reactions* and taxpayers’ *compliance intentions*. We developed a three-item measure of *punishment deservingness*,

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<sup>11</sup> In subsection 239(1) of the Income Tax Act, R.S.C. 1985 c. 1 (5<sup>th</sup> Supp.), and subsection 380(1) of the Criminal Code of Canada, R.S.C. 1985 c. C-46.

<sup>12</sup> In the statistical analysis, the condition where punishment occurred is coded as ‘+1’, whereas the condition where punishment did not occur is coded as ‘0’.

<sup>13</sup> This manipulation intentionally does not make clear whether the tax authority chose not to prosecute the tax evaders, or chose to prosecute the tax evaders but was unsuccessful in the prosecution attempt, as doing so could limit the generalizability of our findings. Thus, the manipulation allows for both possibilities. In the Isle of Man tax dodge, the Canadian tax authority chose not to prosecute the tax evaders. We discuss this issue further in the final section of the manuscript.

adapted to the tax context. As Feather (1996; 1998) used a one-item measure of *punishment deservingness*, we developed a more robust measure.<sup>14</sup> The items were as follows: “The taxpayers who invested in the tax scheme deserve to be punished”; “There should be negative consequences for the taxpayers who participated in the tax scheme”; and, “The taxpayers who invested in the tax scheme need to be held accountable for their wrongdoing.” Participants responded to each statement using a 7-point scale with endpoints of ‘strongly disagree’ (1) and ‘strongly agree’ (7). The Cronbach alpha of this three-item measure is 0.87. We used the average score of these items in our subsequent analyses.

Participants responded to four statements about *affective reactions*, as follows: “After the CRA’s audit, what happened to the taxpayers makes me angry”; “After the CRA’s audit, what happened to the taxpayers makes me satisfied”; “After the CRA’s audit, what happened to the taxpayers makes me disappointed”; and, “After the CRA’s audit, what happened to the taxpayers makes me pleased.” Participants responded to each statement using a 7-point scale with endpoints of ‘strongly disagree’ (1) and ‘strongly agree’ (7). These items are derived from Feather (1998, 1999) and Feather & Sherman (2002), who contrast these affective reactions. The first and third items are reverse-scored, such that higher scores indicate greater satisfaction and pleasure. The Cronbach alpha of this measure of *affective reactions* is 0.83. We used the average score of the participants’ responses in our subsequent analyses.

Participants responded to four statements about tax *compliance intentions* as follows: “Chris will not declare all the cash to the CRA”; “Chris would be tempted to not report all of the cash receipts on the tax return”; “Chris is unlikely to report all of the cash earnings to the CRA”; and, “Under the circumstances, Chris might not report all of the cash earnings on the tax

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<sup>14</sup> In Feather (1996, 1998), participants rated the extent to which punishment was deserving using a 7-point scale with endpoints of ‘doesn’t deserve it at all’ (1) and ‘deserves it a lot’ (7).

return.”<sup>15</sup> Participants responded to each statement using a 7-point scale, with endpoints of ‘strongly disagree’ (1) and ‘strongly agree’ (7). This measure is based on Farrar et al. (2019). The Cronbach alpha of this measure is 0.92. We reverse-coded this variable; therefore, higher scores indicate higher *compliance intentions* and lower scores indicate lower *compliance intentions*. We used the average score of participants’ responses in the subsequent analyses.

### ***Control Variables***

In Feather’s (1998) model, ancillary constructs are seriousness of offense, which may influence *punishment deservingness*, and harshness of punishment, which may influence *affective reactions*. Accordingly, we control for these two variables. We developed a two-item measure of *tax fraud severity*, also based on Feather (1998). The items were, “I think tax evasion is a serious offense”, and “I think tax evasion is a severe crime.” Participants responded to each statement using a 7-point scale with endpoints of ‘strongly disagree’ (1) and ‘strongly agree’ (7). The Cronbach alpha of this two-item measure is 0.81. We used the average score of the participants’ responses in our subsequent analyses.

We also developed a three-item measure of *harshness of punishment*, based on Feather (1998). The items were as follows: “What do you think of the end result to the taxpayers after the CRA’s investigation?”; “What do you think of the final outcome the taxpayers received from the CRA?”; and, “What do you think of the final consequence to the taxpayers?” Participants responded to each statement using a 7-point scale with endpoints of ‘much too lenient’ (1) and

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<sup>15</sup> Although all respondents were told to imagine that they were Chris when responding to all questions, we asked the tax compliance statements in a third-person perspective, which is common in tax compliance research, as it minimizes participant discomfort and reduces the risk that social desirability bias would contaminate the results (Chung & Monroe, 2003).

‘much too harsh’ (7). The Cronbach alpha of this three-item measure is 0.97. We used the average score of the participants’ responses in our subsequent analyses.

Consistent with prior tax compliance research, we also included demographic measures in the instrument pertaining to gender, age, work experience, income, political beliefs, education, tax preparer, audit likelihood, and detection likelihood (Bobek, Roberts, & Sweeney, 2007; Farrar et al., 2019; Verboon & VanDijke, 2007). We also asked participants if they had pre-existing knowledge of any news stories about tax dodges, and if they were aware of the specific Isle of Man tax scheme, prior to taking the survey. As shown on Table 1, over half of the participants (58.1%) were aware of tax dodges, but only a small percentage (7.8%) were aware of the specific Isle of Man tax dodge.<sup>16</sup> Finally, we asked participants if tax evasion could ever be justified, following Molero & Pujol (2012), who suggest that taxpayers can justify tax evasion if they have a grievance pertaining to others’ tax evasion.

As shown in our correlation analysis in Table 2, there were ten control variables that were significantly correlated with tax *compliance intentions*: education, income, political beliefs, tax preparer, tax fraud severity, harshness of punishment, audit likelihood, detection likelihood, whether the participant had ever been audited, and the extent to which tax evasion could ever be justified. We included these covariates in our conditional process analysis, but to streamline the reporting of this analysis, we do not report the covariates as none of the results in that analysis differ significantly relative to when these covariates were included. All subsequent conditional process analysis, including supplemental analysis, is performed using these ten covariates.<sup>17</sup>

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<sup>16</sup> Given that the Isle of Man tax dodge was publicized in the winter of 2017, and participants completed this survey in the summer of 2020, it is reasonable that few participants were aware of it. As well, given the robustness of our subsequent results, it is likely that the results would be even stronger if the research were conducted while a media story about a tax dodge was publicized.

<sup>17</sup> As reported in Panel B of Table 3, the index of moderated mediation when all ten covariates are present is 0.049 and is significant, as a bootstrap confidence interval is entirely above zero (0.002 to 0.1283). The index of

[insert Table 2 about here]

## 4. Results

### *Manipulation checks*

Both independent variables were manipulated and required manipulation checks. To assess the effectiveness of the *responsibility* manipulation, participants responded to two Likert-based statements, as follows: (1) “The taxpayers have only themselves to blame for investing in the tax shelter scam,” and, (2) “The taxpayers felt solely responsible for what happened with the tax shelter.” Participants responded to each statement using a 7-point scale with endpoints of ‘strongly agree’ (1) and ‘strongly disagree’ (7). The mean score for statements (1) and (2) in the lower *responsibility* condition was 4.51/7 and 3.18/7, respectively, and 5.76/7 and 4.03/7 in the higher *responsibility* condition, respectively. These responses are in the expected direction, and both differences are significant ( $F=54.7$ ,  $p<.01$  and  $F=25.2$ ,  $p<.01$ , respectively). Thus, *responsibility* was effectively manipulated across both conditions.

As the *punishment occurrence* moderator variable is manipulated, we asked an attention-check question that also served as a manipulation check. Participants were asked, “After the CRA’s audit, what happened to the taxpayers?” Respondents could choose from two responses, corresponding to the punishment condition (“They had to repay the taxes they had evaded, and were fined and sentenced to jail”) or the condition where the taxpayers were not punished (“They had to repay the taxes they had evaded, but were neither fined nor sentenced to jail”). Only participants who correctly answered this question are included in the final sample.

### *Tests of hypotheses*

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moderated mediation when no covariates are present is 0.101, and is also significant, as a bootstrap confidence interval is entirely above zero (0.013 to 0.239).

To test our hypotheses, we performed a conditional process analysis (Hayes 2018a) for the model. A conditional process analysis allows researchers to understand whether an indirect effect (mediation) is dependent on another variable (moderation) (Hayes 2018b), and is a form of regression analysis in which all paths between constructs are able to be analyzed, even if a particular path is not specified in a theoretical model. As such, conditional process analysis allows researchers to test theoretical models involving moderated mediation, and also allows researchers to rule out alternative explanations by assessing whether a path that is not hypothesized is nonetheless significant.

Tax *compliance intentions* is the dependent variable, *responsibility* and tax *punishment occurrence* are independent variables, and tax fraud *punishment deservingness* perceptions and *affective reactions* are mediators.<sup>18</sup> Results from our analysis are in Table 3, which contains a visual depiction of the model being analyzed (Panel A), as well as a summary of the statistical results (Panel B).

[insert Table 3 about here]

Our first hypothesis is that there will be a positive association between *responsibility* for a tax fraud and *punishment deservingness*. As shown in Table 3, Panel B, there is a significant and positive path between *responsibility* and *punishment deservingness* (coefficient of +0.32,  $p=0.01$ ). Thus, this finding provides support for Hypothesis 1.

To provide additional directional support for Hypothesis 1, we compared respondents' *punishment deservingness* perceptions by levels of *responsibility* (not tabulated). Respondents in the lower *responsibility* condition had mean *punishment deservingness* scores of 5.02/7, whereas

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<sup>18</sup> Following Hayes (2018, pp. 613-620), we created a customized model using *bmatrix* syntax for the mediation paths and *wmatrix* syntax for the moderation effect of *punishment occurrence* as hypothesized. In the *bmatrix*, we allowed all paths between variables to be potential mediators so that non-significant mediators would indicate further support for our hypothesized model (this issue is discussed in the Supplemental Analysis).

respondents in the higher *responsibility* condition had mean *punishment deservingness* scores of 5.35/7. This difference is significant ( $t=-2.45$ ,  $p=0.01$ , one-tailed), and in the expected direction. Thus, respondents in the higher *responsibility* condition perceived the tax offenders in the scenario to be significantly more deserving of punishment than the respondents in the lower *responsibility* condition. This result provides additional evidence for Hypothesis 1.

Our second hypothesis predicts that the positive association between *punishment deservingness* and *affective reactions* will be moderated by *punishment occurrence*, such that this association will be stronger when a tax fraud perpetrator is punished versus unpunished. To test this hypothesis, we first examined whether there was a significant interaction effect between *punishment deservingness* and *punishment occurrence* on *affective reactions*. As shown on Table 3, Panel B, this interaction effect is significant ( $p < .01$ ), which provides initial support for Hypothesis 2.

We then compared respondents' *affective reactions* by *punishment occurrence* (See Table 4, Panel A). Support for Hypothesis 2 would occur if respondents in the scenario where the tax fraud perpetrators were punished had significantly higher *affective reactions* (satisfaction and pleasure) than respondents in the scenario where the tax fraud perpetrators were unpunished. As shown in Table 4, Panel A, *affective reactions* in the 'no punishment' condition had a mean score of 3.79/7, whereas *affective reactions* in the 'punishment' condition had a mean score of 4.56/7. This difference is significant ( $t=-5.78$ ,  $p < .01$ , one-tailed), and in the expected direction. Thus, Hypothesis 2 is confirmed.

Our third hypothesis predicts that there will be a significant and positive association between *affective reactions* and *tax compliance intentions*. As shown on Table 3, Panel B, this path is positive and significant (coefficient of +0.12,  $p = 0.03$ ). Thus, Hypothesis 3 is confirmed.



Hypothesis 4 predicts an overall moderated mediation effect. That is, there will be conditional indirect effects of *responsibility* on *tax compliance intentions* through *punishment deservingness* perceptions and *affective reactions* according to whether or not a tax fraud perpetrator is punished. Support for Hypothesis 4 is provided if the index of moderated mediation for our model is significant. As shown in Table 3, Panel B, the index of moderated mediation is 0.049 and significant, as a bootstrap confidence interval is entirely above zero (0.002 to 0.128). This significant index indicates that the hypothesized indirect effect of *responsibility* on *tax compliance intentions* through *punishment deservingness* and *affective reactions* are conditional, i.e., they differ significantly according to *punishment occurrence*. Thus, our results provide support for Hypothesis 4. As further shown in Table 3, Panel B, when tax fraud perpetrators are unpunished, there is a significant and negative coefficient of this indirect effect, but when tax fraud perpetrators are punished, there is a significant and positive coefficient of this indirect effect, indicating that tax compliance tends to increase (decrease) if tax fraud perpetrators are punished (unpunished).

Having ascertained the indirect pathways by which tax compliance intentions are impacted by both *responsibility* and *punishment occurrence*, we next test the specific patterns of compliance means predicted in Hypotheses 5a and 5b. We do a planned contrast analysis (Buckless & Ravenscroft, 1990; Guggenmos, Piercy, & Agoglia, 2018), which is appropriate if there are specific theoretical predictions. We expect that both affective reactions and tax compliance intentions will be highest when an offender is punished and is highly responsible for their transgression. Accordingly, we assign this condition a weight of +4 (Cell 1). We expect that in the condition when an offender is punished but has lower responsibility for their transgression, affective reactions and compliance intentions will still be relatively high, but not as high as if the

transgressor was highly responsible. Accordingly, we assign this condition a weight of +2 (Cell 2). As we expect lower affective reactions and lower compliance in the no punishment conditions, regardless of responsibility, we assign these conditions weights of -3 (Cells 3 and 4).

As shown on Table 4, the pattern of means for affective reactions mirrors that of compliance intentions. Furthermore, as expected, Cell 1 for both affective reactions and compliance intentions contains the highest means. As shown on Table 4, Panel A, the test of planned contrasts for affective reactions is significant ( $F=38.02$ ,  $p<0.01$ ). Even when controlling for the three variables significantly correlated with affective reactions (per Table 2; harshness of penalty, audit likelihood, and detection likelihood), this test remains significant ( $F=17.10$ ,  $p<0.01$ ). Thus, Hypothesis 5a is supported.

As shown on Table 4, Panel B, the test of planned contrasts for compliance intentions is likewise significant ( $F=13.25$ ,  $p<0.01$ ). Even when controlling for the ten variables significantly correlated with compliance intentions (per Table 2; identified previously), this test remains significant ( $F=6.36$ ,  $p=0.01$ ). Thus, Hypothesis 5b is supported. That the patterns of means for both affective reactions and compliance intentions are similar provides additional support for our theoretical model, since affective reactions are the antecedent to compliance intentions.

### ***Supplemental Analysis***

To provide additional support for our moderated mediation model, we examined the indirect effects of *punishment deservingness* on tax *compliance intentions* through *affective reactions* at each level of the moderator (*punishment occurrence*) and other independent variable (*responsibility*). This untabulated analysis shows that only when *responsibility* is higher and punishment occurs is tax compliance significantly impacted, as tax *compliance intentions* increase (the indirect effect is positive (+0.41) and significant (bootstrap confidence interval is

0.091 to 0.769)). In all other conditions, there is no significant impact on tax *compliance intentions*, and the coefficient sign is as expected (a positive coefficient when punishment occurs and responsibility is lower, and negative coefficients for both conditions when punishment does not occur). This finding is consistent with our pattern of means in the contrast analysis and provides additional support for Hypotheses 4 and 5.

We also examined the direct paths in the moderated mediation model that are not hypothesized, namely a) the direct path from responsibility to compliance intentions; b) the direct path from responsibility to affective reactions; and c) the direct path from deservingness to compliance intentions. We did not hypothesize these direct paths, as they are not predicted by Feather (1998) or the empirical tax compliance literature, and therefore we expect that all are non-significant. The direct path from responsibility to compliance intentions is not significant ( $p=0.63$ ); the direct path from responsibility to affective reactions is not significant ( $p=0.10$ ); and the direct path from deservingness to compliance is not significant ( $p=0.07$ ). Collectively, these findings provide additional support for our theoretical model.

Finally, to rule out other alternative explanations for our theoretical model, we perform an additional conditional process analysis (untabulated) in which we allow for the following: a) an interaction effect of responsibility and punishment occurrence on deservingness; b) an interaction effect of both manipulated independent variables (responsibility and punishment occurrence) on compliance; and c) a direct path from punishment occurrence to compliance.<sup>19</sup> None of these effects are hypothesized. If all are non-significant, these results provide additional support for our theoretical model. The interaction effect of responsibility and punishment occurrence on deservingness is not significant ( $p=0.70$ ), which provides additional evidence that

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<sup>19</sup> We did not conduct an ANCOVA as we did not predict any direct effects or interaction effects of the manipulated independent variables on tax compliance intentions.

punishment occurrence moderates only the association between deservingness and affective reactions. The interaction effect of responsibility and punishment occurrence on compliance is not significant ( $p=0.26$ ). The direct path from punishment occurrence to compliance is positive (coefficient of  $+0.08$ ), but not significant ( $p=0.75$ ). Collectively, these findings provide additional support for our theoretical model.

## **5. Discussion**

In this research, we investigated why and how individuals' tax compliance is influenced by the punitive response – or lack thereof – by a tax authority when it discovers tax evasion. Using insights from the retributive justice literature on reactions to penalties (Feather 1998), and tax compliance literature on affect (Christian & Alm, 2014; Maciejovsky et al., 2012), we predict conditional indirect effects of responsibility for a tax fraud on tax compliance intentions through observers' perceptions of deservingness and affective reactions. We also predict that whether or not the punishment occurs will moderate these indirect effects.

We conduct an experiment to test our model, using a sample of adult Canadian taxpayers, and find strong support for our predictions. We find that tax compliance intentions are highest when a tax evader is punished and is perceived as solely responsible for their transgression. Our results suggest that the influence of a retributive outcome on individuals' tax compliance is complex, as it varies according to perceived responsibility for a transgression as well as whether a punishment actually occurs, and is a psychological response based on deservingness perceptions and affective reactions.

For tax authorities and other regulators, our results have several implications. In general, they underscore the importance of punishment occurring to increase subsequent compliance. As

well, if a transgressor can shift the blame to someone else, or is somehow perceived to be less than fully culpable for their unethical behaviour, even if punishment occurs, any positive compliance effects are diminished.

Our results also have implications for tax authorities who may decide not to attempt a prosecution for tax evasion. In the ‘Isle of Sham’ tax dodge, when questioned during a parliamentary hearing why the CRA did not prosecute the tax evaders, the assistant commissioner of the CRA’s international tax division replied, “We believe there is some legal risk... that our tax assessment could be challenged and may not stand up in court.”<sup>20</sup> Thus, a tax authority is cognizant of the possibility that if they choose to prosecute, they could lose their case, which would set a precedent not favouring the tax authority. The risk of an unsuccessful prosecution and subsequent unfavourable legal precedent must be weighed against lower national compliance for failure to punish a tax evader. Some tax authorities may choose not to punish a tax evader to guard against the legal risk of losing a case in court, but our results suggest that this course of action is detrimental to observers’ tax compliance.

Our findings also affirm the importance of understanding fraud in a social, legal, and economic context (Cooper et al., 2013). Specific to tax fraud, it is important to understand the social dynamics between different branches of government (tax authorities and the justice system), perpetrators of a fraud, and the general public. In turn, this knowledge informs how accounting researchers can frame and understand behavioral responses to accountability outcomes, including the extent to which perpetrators are punished, which can arise from a government’s inability or unwillingness to hold wrongdoers accountable through punishment, as the Canadian “Isle of Sham” tax dodge exemplifies.

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<sup>20</sup> Government of Canada, Finance Committee meeting May 5, 2016. Online: <https://openparliament.ca/committees/finance/42-1/18/>

As with all experimental research, our study is not without limitations. First, the hypotheses of this research study are tested using Canadian taxpayers. To the extent that taxpayers in other countries differ in meaningful ways from Canadian taxpayers, our theoretical model may not generalize (c.f., Bobek et al., 2007). To address the issue of generalizability, we encourage further research using taxpayers from other countries with similar public information about tax evasion convictions. Second, participants in our study provided compliance intentions rather than actual compliance behavior. While it is important to distinguish intentions from behavior, there is strong empirical support (Sheeran, 2002) for psychological models holding that an individual's intention is the strongest predictor of an individual behavior including the theory of reasoned action (Randall, 1989), the protection motivation theory (Rogers, 1983), and the theory of planned behavior (Carpenter & Reimers, 2005).

Notwithstanding these limitations, we believe that our research makes several contributions to the tax and accounting literatures. Our primary contribution is to extend the tax compliance literature by showing that perceived responsibility and punishment occurrence can increase tax compliance in a retributive context, and that psychological considerations impact compliance even when controlling for economic factors. We also contribute to the broader retributive justice literature by providing empirical support for Feather's (1998) model of reactions to penalties, and by extending this model to include punishment occurrence and a behavioral response. We also contribute to the tax compliance literature on taxes and peer effects (Armstrong, 2019) by examining peer effects in an individual income tax compliance context. Finally, we contribute to the broader accounting literature on fraud by providing empirical evidence that punishment is a key variable to consider in connection with fraud (Murphy, 2012).

Our results show that the tax compliance decision in a retributive context is complicated, and more complicated than shown by Kogler et al. (2015) and Mahangila & Holland (2015). To this end, we encourage the use of more sophisticated models of tax compliance to better understand circumstances in which taxpayers' compliance may be impacted. We also encourage extensions of this research to consider how variations in punishment can impact tax compliance, and the degree to which the tax authority itself is perceived as responsible for tax evasion and how those perceptions impact observers' compliance.

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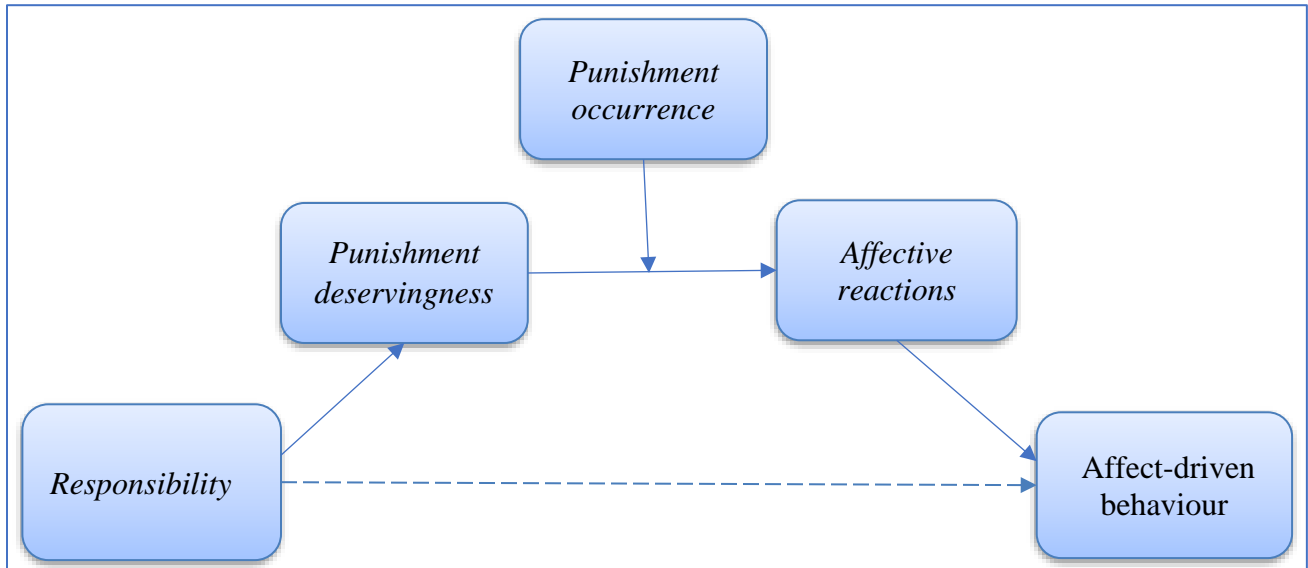
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**Figure 1** Model Diagrams

**Panel A:** Theoretical Model



**Panel B:** Study-Specific Model

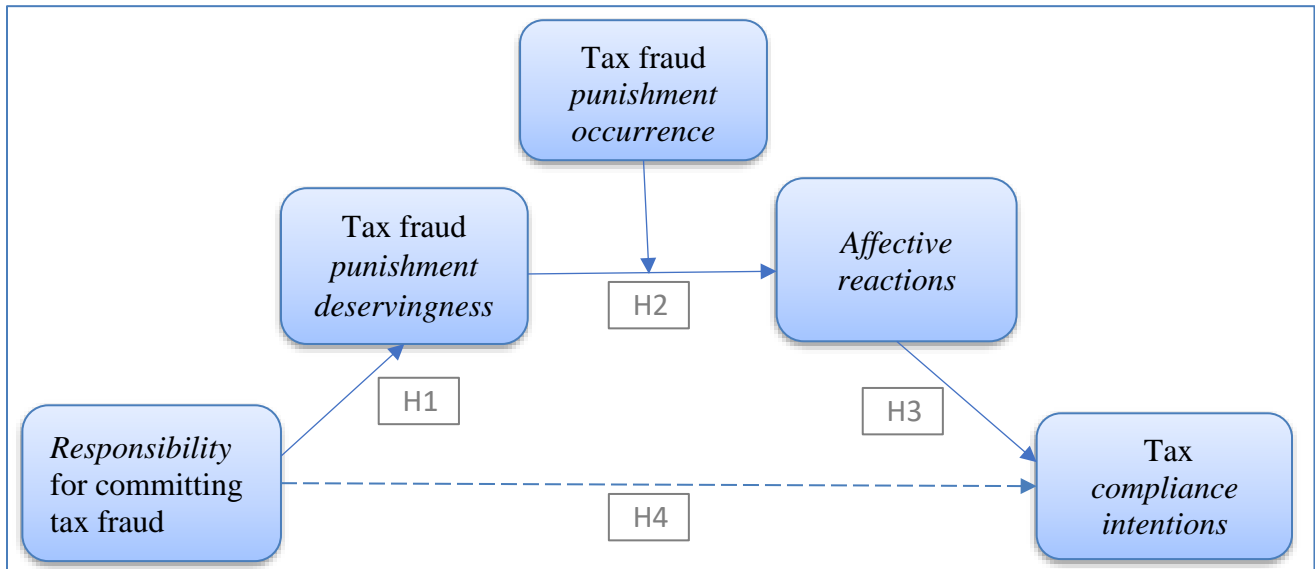


TABLE 1  
Demographic profile statistics

Sample size	n = 399
Gender	
<i>male</i>	n = 210 (52.6%)
<i>female</i>	n = 187 (46.9%)
<i>other</i>	n = 2 (0.5%)
Age	mean = 34.8 years std dev = 8.9 years
Work experience	mean = 11.3 years std dev = 8.7 years
Aware of news stories about tax dodges?	yes = 232 (58.1%)
Aware of the Canada-Isle of Man tax dodge?	yes = 31 (7.8%)
Income:	
<i>less than \$25,000</i>	n=67 (16.8%)
<i>between \$25,000 and \$50,000</i>	n=90 (22.6%)
<i>between \$50,001 and \$75,000</i>	n=94 (23.6%)
<i>between \$75,001 and \$100,000</i>	n=72 (18.0%)
<i>greater than \$100,000</i>	n=55 (13.8%)
<i>prefer not to answer</i>	n=21 (5.3%)
Highest level of education completed:	
<i>Less than high school</i>	n = 5 (1.3%)
<i>High school</i>	n = 44 (11.0%)
<i>Associate degree</i>	n = 36 (9.0%)
<i>Bachelor's degree</i>	n = 216 (54.1%)
<i>Master's degree</i>	n = 62 (15.5%)
<i>Professional degree or doctoral degree</i>	n = 25 (16.3%)
<i>Other</i>	n = 11 (2.8%)
Political beliefs	
<i>Very conservative</i>	n = 11 (2.8%)
<i>Moderately conservative</i>	n = 35 (8.8%)
<i>Slightly conservative</i>	n = 29 (7.3%)
<i>Middle of political spectrum</i>	n = 74 (18.5%)
<i>Slightly liberal</i>	n = 67 (16.8%)
<i>Moderately liberal</i>	n = 107 (26.8%)
<i>Very liberal</i>	n = 76 (19.0%)
Tax preparer	
<i>Myself</i>	n = 232 (58.1%)
<i>Spouse / partner</i>	n = 37 (9.3%)
<i>Paid preparer</i>	n = 101 (25.3%)
<i>Other</i>	n = 29 (7.3%)

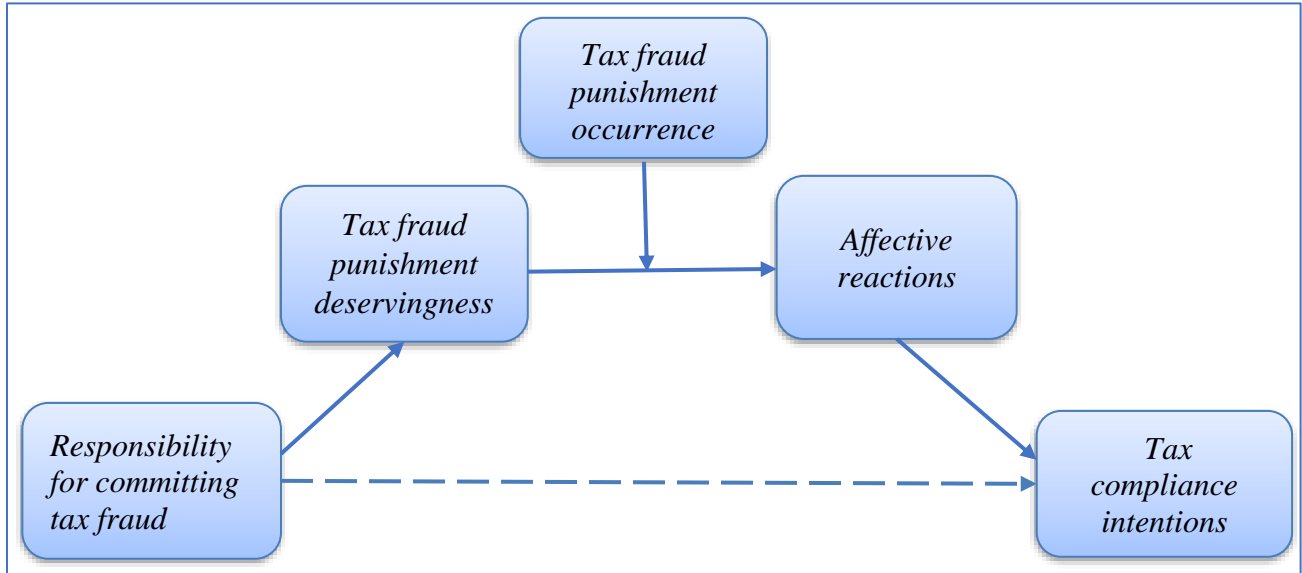
TABLE 2  
Correlation Matrix

	<i>Independent and Dependent Variables</i>				<i>Demographic &amp; Other Control Variables</i>															
	<i>Responsibility (IV)</i>	<i>Affective reactions (DV)</i>	<i>Punishment deservingness (DV)</i>	<i>Tax compliance intentions (DV)</i>	Gender	Age	Work exp.	Educ.	Income	Political beliefs	Aware of tax dodges	Aware of this tax dodge	Tax preparer	Harshness of penalty	Tax evasion severity	Audit likelihood	Detection likelihood	Ever been audited	Justify tax evasion	
<i>Punishment Occurrence (IV)</i>	+0.01	+0.28*	+0.18*	+0.17*	-0.01	+0.04	+0.01	+0.06	+0.02	+0.05	-0.01	+0.05	+0.03	+0.64*	+0.04	-0.01	+0.05	-0.01	+0.04	
<i>Responsibility (IV)</i>		+0.09	+0.12*	+0.03	-0.13*	-0.02	-0.02	-0.01	-0.14*	-0.04	-0.05	-0.06	-0.04	-0.03	+0.02	+0.07	+0.07	-0.02	+0.04	
<i>Affective reactions (DV)</i>			+0.02	+0.20*	+0.01	+0.01	+0.01	-0.01	+0.01	-0.06	+0.09	+0.07	-0.09	+0.23*	+0.07	+0.12*	+0.20*	-0.01	-0.02	
<i>Punishment deservingness (DV)</i>				+0.11*	-0.06	-0.17*	-0.16*	+0.11*	+0.01	+0.07	-0.07	+0.01	+0.05	-0.16*	+0.35*	+0.05	+0.09	+0.11*	-0.10	
<i>Tax compliance intentions (DV)</i>					+0.01	-0.10	-0.09	-0.10*	-0.12*	+0.13*	+0.03	+0.07	+0.10*	+0.13*	+0.13*	+0.13*	+0.43*	+0.14*	-0.28*	
Gender						+0.04	+0.02	+0.10*	-0.12*	+0.23*	-0.05	+0.07	+0.06	-0.01	-0.01	+0.01	-0.07	-0.01	-0.03	
Age							+0.77*	-0.14*	+0.12*	+0.01	+0.03	-0.08	-0.02	+0.08	-0.06	-0.07	-0.11*	-0.05	-0.07	
Work exp.								-0.22*	+0.13*	+0.01	+0.05	-0.07	-0.11*	+0.09	-0.12*	-0.08	-0.10*	-0.11*	-0.08	
Education									+0.14*	+0.04	+0.05	+0.01	+0.08	-0.02	+0.15*	-0.01	+0.01	+0.03	-0.04	
Income										-0.10*	+0.02	+0.01	-0.15*	+0.03	-0.01	-0.03	-0.01	-0.08	+0.02	
Political beliefs											-0.08	+0.08	+0.05	-0.11	+0.02	-0.14*	-0.06	+0.11*	-0.09	
Aware of tax dodges												+0.19*	+0.10*	+0.03	-0.17*	-0.01	+0.06	+0.04	+0.01	
Aware of this taxdodge													+0.05	+0.01	-0.11*	-0.07	-0.01	+0.03	+0.01	
Tax preparer														-0.03	+0.05	+0.04	+0.11*	+0.11*	-0.02	
Harshness of penalty															-0.18*	+0.13*	+0.06	-0.02	+0.21*	
Tax evasion severity																+0.28*	+0.22*	+0.06	-0.34*	
Audit likelihood																	+0.50*	-0.13*	-0.04	
Detection likelihood																		+0.03	-0.05	
Ever been audited																			-0.06	
Justify tax evasion																				

\*Pearson correlation coefficient significant at the 0.05 level, two-tailed.



TABLE 3  
Moderated Mediation Analysis  
**Panel A: Main Model**



**Panel B: Total Sample Primary Statistical Analysis**

Primary Path	Coeff.	SE	p-value
<i>Responsibility</i> → <i>Punishment Deservingness</i>	0.32	0.13	0.01
<i>Punishment Deservingness</i> x <i>Punishment Occurrence</i> → <i>Affective reactions</i>	1.26	0.08	< .01
<i>Affective Reactions</i> → <i>Tax compliance intentions</i>	0.12	0.05	0.03
<i>Responsibility</i> → <i>Tax Compliance Intentions</i>	0.07	0.14	0.62
<p><b>Moderated mediation results</b> Index of moderated mediation = .049 (SE 0.03). A 95% bootstrap confidence interval based on 10,000 bootstrap samples was entirely above zero (0.002 to 0.128), meaning the moderated mediation model is significant. The conditional indirect effects of <i>Responsibility</i> on <i>Tax Compliance Intentions</i> through <i>Punishment Deservingness</i> and <i>Affective Reactions</i> differ significantly according to <i>Punishment Occurrence</i> condition.</p>			
<p><b>Conditional Indirect Effects of Responsibility on Tax Compliance Intentions through Punishment Deservingness and Affective Reactions</b></p> <p>NO PUNISHMENT – indirect effect coefficient of -0.020 (standard error 0.01), confidence interval entirely below zero (-0.055 to -0.007) PUNISHMENT - indirect effect coefficient of +0.029 (standard error 0.020), confidence interval entirely above zero (0.001 to 0.076)</p>			

**TABLE 4 – Cell Means for Affective Reactions and Compliance Intentions**

<b>Panel A: Descriptive Statistics for Affective Reactions (Satisfaction and Pleasure)</b>				
Mean (standard deviation)				
		<b>Responsibility</b>		
		<b>Higher</b>	<b>Lower</b>	<b>Total</b>
<b>Punishment</b>	<b>Present</b>	4.77 (1.32) n=102 <i>Cell 1</i>	4.34 (1.27) n=97 <i>Cell 2</i>	4.56 (1.31) n=199
	<b>Absent</b>	3.82 (1.35) n=102 <i>Cell 3</i>	3.75 (1.36) n=98 <i>Cell 4</i>	3.79 (1.35) n=200
	<b>Total</b>	4.29 (1.41) n=204	4.04 (1.34) n=195	4.17 (1.39) n=399
Planned contrast results using Affective Reactions as the dependent variable and +4, +2, -3, -3 weightings for cells 1, 2, 3, and 4, respectively: $F=38.02$ , $p<0.01$				
The same planned contrast results controlling for all 3 covariates (per Table 2) that are significantly correlated with Affective Reactions: $F=17.10$ , $p<0.01$				

<b>Panel B: Descriptive Statistics for Compliance Intentions</b>				
Mean (standard deviation)				
		<b>Responsibility</b>		
		<b>Higher</b>	<b>Lower</b>	<b>Total</b>
<b>Punishment</b>	<b>Present</b>	4.24 (1.68) n=102 <i>Cell 1</i>	4.00 (1.72) n=97 <i>Cell 2</i>	4.12 (1.70) n=199
	<b>Absent</b>	3.53 (1.64) n=102 <i>Cell 3</i>	3.57 (1.54) n=98 <i>Cell 4</i>	3.55 (1.31) n=200
	<b>Total</b>	3.89 (1.70) n=204	3.79 (1.64) n=195	3.84 (1.67) n=399
Planned contrast results using Compliance Intentions as the dependent variable and +4, +2, -3, -3 weightings for cells 1, 2, 3, and 4, respectively: $F=13.25$ , $p<0.01$				
The same planned contrast results controlling for all 10 covariates (per Table 2) that are significantly correlated with the Compliance Intentions: $F=6.36$ , $p=0.01$				

## **Appendix**

### ***Experimental Instrument***

#### ***Part 1 – Basic Tax Scenario, common to all experimental materials***

Chris is a local entrepreneur who owns a food truck. He receives a lot of cash from customers, which is difficult to keep track of. He is in the process of preparing this year's tax return.

Recently, Chris read the following story in the news about some taxpayers.

#### ***Specific Scenario Information***

##### ***No punishment, lower responsibility***

###### **CRA Uncovers Tax Scheme**

Several years ago, a large accounting firm approached a number of wealthy clients. The accounting firm told them they could pay less taxes by investing funds in a company on the Isle of Man. The clients followed this advice, and made the investment.

Recently, the taxpayers were all audited by the Canada Revenue Agency (CRA). As it turned out, the tax shelter was a bogus arrangement that was intended to deceive the Canadian government. The taxpayers had to repay all the taxes they evaded, which is a standard practice and not a punishment.

However, the taxpayers were never punished. They were neither fined nor sentenced to jail.

##### ***Punishment, lower responsibility***

###### **CRA Uncovers Tax Scheme**

Several years ago, a large accounting firm approached a number of wealthy clients. The accounting firm told them they could pay less taxes by investing funds in a company on the Isle of Man. The clients followed this advice, and made the investment.

Recently, the taxpayers were all audited by the Canada Revenue Agency (CRA). As it turned out, the tax shelter was a bogus arrangement that was intended to deceive the Canadian government. The taxpayers had to repay all the taxes they evaded, which is a standard practice and not a punishment.

Moreover, the taxpayers were then punished by being fined and sentenced to jail for several years.

##### ***Punishment, higher responsibility***

###### **CRA Uncovers Tax Scheme**

Several years ago, a number of wealthy individuals read a brochure about paying less taxes by investing funds in a company on the Isle of Man. The individuals acted on their own, didn't ask anyone for advice, and made the investment.

Recently, the taxpayers were all audited by the Canada Revenue Agency (CRA). As it turned out, the tax shelter was a bogus arrangement that was intended to deceive the Canadian government. The taxpayers had to repay all the taxes they evaded, which is a standard practice and not a punishment.

Moreover, the taxpayers were then punished by being fined and sentenced to jail for several years.

*No punishment, higher responsibility*  
CRA Uncovers Tax Scheme

Several years ago, a number of wealthy individuals read a brochure about paying less taxes by investing funds in a company on the Isle of Man. The individuals acted on their own, didn't ask anyone for advice, and made the investment.

Recently, the taxpayers were all audited by the Canada Revenue Agency (CRA). As it turned out, the tax shelter was a bogus arrangement that was intended to deceive the Canadian government. The taxpayers had to repay all the taxes they evaded, which is a standard practice and not a punishment.

However, the taxpayers were never punished. They were neither fined nor sentenced to jail.

**Part 2 - Questions**

*Thinking about the scenario you just read, please read the following statements and indicate your level of agreement by clicking on the appropriate response, where 1=strongly disagree, and 7=strongly agree. Please answer these questions as if you were Chris.*

*Tax compliance intentions*

1. Chris will not declare all the cash to the CRA.
2. Chris would be tempted to not report all of the cash receipts on the tax return.
3. Chris is unlikely to report all of the cash earnings to the CRA.
4. Under the circumstances, Chris might not report all of the cash earnings on the tax return.

*Attention-check questions [note: #1 is also a manipulation check]*

1. After the CRA's audit, what happened to the taxpayers?  
A) They had to repay the taxes they had evaded, and were fined and sentenced to jail.  
B) They had to repay the taxes they had evaded, but were neither fined nor sentenced to jail.
2. In the scenario, what did the taxpayers decide to do?  
A) Invest in a risky business venture in the Caribbean.  
B) Invest in a company on the Isle of Man.  
C) Provide financing to a mining company.

*Responsibility manipulation effectiveness questions*

1. The taxpayers have only themselves to blame for investing in the tax shelter scam. (1=strongly agree; 7=strongly disagree)
2. The taxpayers felt solely responsible for what happened with the tax shelter. (1=strongly agree; 7=strongly disagree)

*Thinking about the scenario you just read, please read the following statements and indicate your level of agreement by clicking on the appropriate response, where 1=strongly disagree, and 7=strongly agree.*

*Affective reactions*

1. After the CRA's audit, what happened to the taxpayers makes me angry. [reverse-scored]
2. After the CRA's audit, what happened to the taxpayers makes me satisfied.
3. After the CRA's audit, what happened to the taxpayers makes me disappointed. [reverse-scored]
4. After the CRA's audit, what happened to the taxpayers makes me pleased.

*Deservingness [generic]*

1. The taxpayers who invested in the tax scheme deserved to be punished.
2. There should be negative consequences for the taxpayers who participated in the tax scheme.
3. The taxpayers who invested in the tax scheme need to be held accountable for their wrongdoing.

*Severity of offense*

1. I think tax evasion is a serious offense.
2. I think tax evasion is a severe crime.

*Harshness of penalty*

(1=much too lenient; 7=much too harsh)

- 1) What do you think of the end result to the taxpayers after the CRA's investigation?
- 2) What do you think of the outcome the taxpayers received from the CRA?
- 3) What do you think of the final consequence to the taxpayers?

*Justifying tax evasion*

Can cheating on tax if you have the chance always be justified, never be justified, or something in between (1=never justifiable; 10=always justifiable)

*Audit likelihood*

Chris expects to be audited by the CRA.

*Detection likelihood*

If Chris does not report all the cash from customers on his tax return, he expects the CRA to find out.

***Other Questions***

*Please provide the following demographic information about yourself.*

- 1) What is your gender?      *Male Female Other*
- 2) In which year were you born?
- 3) How many years of work experience do you have? (round to nearest year)
- 4) Please indicate your highest level of education completed:  
*Less than High School*  
*High School*  
*Associate's Degree*  
*Bachelor's Degree*  
*Master's Degree*  
*Professional Degree or Doctoral Degree*

*Other*

5) Please indicate your approximate annual income (before-tax) for 2019:

*less than \$25,000*

*between \$25,000 and \$49,999*

*between \$50,000 and \$74,999*

*between \$75,000 and \$99,999*

*\$100,000 or more*

*Prefer not to answer*

6) How would you categorize your political beliefs?

*Very conservative*

*Moderately conservative*

*Slightly conservative*

*Middle of political spectrum*

*Slightly liberal*

*Moderately liberal*

*Very liberal*

*Please answer the following final questions.*

7) Before taking this survey, were you familiar with any news stories about tax schemes or tax havens? Yes No

8) Before taking this survey, were you aware of any Canadians linked to a secret tax dodge in the Isle of Man? Yes No

9) Have you ever been audited by the CRA? Yes No

10) Who usually prepares your tax return?

*I do*

*My spouse / partner*

*Paid preparer*

*Other*

11) Do you have any other comments or anything else you would like to share?

---

Thank you for your contribution to our research!

## Notes

<sup>1</sup> In Feather's (1998) model, seriousness of offense is endogenous to responsibility and harshness of penalty is endogenous to punishment deservingness. In our study, we control for these variables.

<sup>2</sup> The Investigative Consortium of Investigate Journalists documents that some, but not all, tax authorities punished parties identified in the Panama Papers (Wilson-Chapman, Cucho, & Fitzgibbon, 2019).

<sup>3</sup> We do not expect the presence or absence of a retributive outcome to moderate the association between responsibility and deservingness. Feather (1996, pp. 273) notes that deservingness affects judgments about a penalty, which implies that a penalty (punishment) occurs after deservingness perceptions are formed. As shown in our supplemental analysis, there is no significant interaction effect of punishment occurrence and responsibility on deservingness.

<sup>4</sup> Tax compliance intentions are a proxy for tax behavior. As Bobek, Hageman, & Kelliher (2013, pp. 458) state, "Concerns that behavioral intentions might not map directly to taxpayers' actual behavior in a situation are partially mitigated by the fact that a joint investigation of actual and hypothetical tax evaders (Webley, Cole, & Eidjar, 2001) indicated that both groups had similar attitudes and motivations". As well, there is strong empirical support (Sheeran, 2002) for several psychological models, including the theory of planned behavior (Carpenter & Reimers, 2005), that affirm that an individual's intention is the strongest predictor of their behavior. In the tax compliance literature, it is common to measure tax compliance intentions rather than actual tax behavior due to social desirability bias (e.g., Blanthorne & Kaplan, 2008; Bobek et al., 2013; Farrar, Kaplan, & Thorne, 2019; Verboon & Van Dijke, 2007).

<sup>5</sup> These aforementioned streams of literature do not enable us to predict direct effects of responsibility, punishment occurrence, or punishment deservingness on tax compliance intentions, nor do they allow us to predict a direct effect of responsibility on affective reactions. Nevertheless, we investigate non-hypothesized effects in a subsequent supplemental analysis.

<sup>6</sup> Sample sizes per cell varied from 97 to 102. To be included in the sample, participants had to correctly answer two attention-check questions (see Oppenheimer et al., 2009), corresponding to factual information in the experimental scenario. The first question also served as a manipulation check. The two questions were placed just after the dependent variable and ensured participants had read the scenario carefully. The two questions are contained in the Appendix. Prolific requests that participants be given two attempts to correctly answer attention-check questions before they are terminated from the study. All 399 participants answered the attention-check questions and no one was terminated from the study. Our Qualtrics software indicated that the quotas had been reached when the total participants were at 399 rather than 400.

<sup>7</sup> According to Statistics Canada's age population estimates in 2019 (<https://www150.statcan.gc.ca/t1/tb11/en/tv.action?pid=1710000501>), the median age in Canada is 40.8. The median age of our sample is 32.0, but includes individuals ages 20 to 70, whereas the Statistics Canada median age includes all ages. According to Statistics Canada's income tables by age group in 2017 (the most recent year with data; <https://www150.statcan.gc.ca/t1/tb11/en/tv.action?pid=1110023901>), the median income in Canada by age group was \$38,400 (ages 25 to 34), \$48,000 (ages 35 to 44), \$49,100 (ages 45 to 54), \$41,300 (ages 55 to 64), and \$28,400 (age 65 and over). When we compared our data segmented similarly by age group, the median score for income category was 3 (\$50,000 - \$74,999) for all age categories except age 65 and over, which had a median score of 2 (\$25,000 - \$49,999). The trend regarding income and age in our sample appears similar to that in the broader Canadian population. In our statistical results, neither age nor income were significantly correlated with affective reactions or tax compliance intentions.

<sup>8</sup> Except for the four tax compliance statements and attention-check and manipulation check questions, all other questionnaire items prior to the demographic measures were presented in random order across several screens. Across the entire instrument, for any measures with multiple items, the groups of items were presented in random order.

<sup>9</sup> In the statistical analysis, the higher responsibility condition is coded as '+1', whereas the lower responsibility condition is coded as '0'.

<sup>10</sup> A news story (Cashore, 2015) reports that one of KPMGs clients who invested in the Isle of Man tax scheme said that he was unaware of Canadian tax laws when he emigrated from South Africa in the mid-1990s. The taxpayer said, "I went to the best people in the country. I'm being drawn into this, and I don't think I should have been in the first place." It is unclear whether an observer would perceive that a client in this type of situation is responsible for the tax evasion, or not.

<sup>11</sup> In subsection 239(1) of the Income Tax Act, R.S.C. 1985 c. 1 (5<sup>th</sup> Supp.), and subsection 380(1) of the Criminal Code of Canada, R.S.C. 1985 c. C-46.

<sup>12</sup> In the statistical analysis, the condition where punishment occurred is coded as '+1', whereas the condition where punishment did not occur is coded as '0'.

<sup>13</sup> This manipulation intentionally does not make clear whether the tax authority chose not to prosecute the tax evaders, or chose to prosecute the tax evaders but was unsuccessful in the prosecution attempt, as doing so could limit the generalizability of our findings. Thus, the manipulation allows for both possibilities. In the Isle of Man tax dodge, the Canadian tax authority chose not to prosecute the tax evaders. We discuss this issue further in the final section of the manuscript.

<sup>14</sup> In Feather (1996, 1998), participants rated the extent to which punishment was deserving using a 7-point scale with endpoints of 'doesn't deserve it at all' (1) and 'deserves it a lot' (7).

<sup>15</sup> Although all respondents were told to imagine that they were Chris when responding to all questions, we asked the tax compliance statements in a third-person perspective, which is common in tax compliance research, as it minimizes participant discomfort and reduces the risk that social desirability bias would contaminate the results (Chung & Monroe, 2003).

<sup>16</sup> Given that the Isle of Man tax dodge was publicized in the winter of 2017, and participants completed this survey in the summer of 2020, it is reasonable that few participants were aware of it.

<sup>17</sup> As reported in Panel B of Table 3, the index of moderated mediation when all ten covariates are present is 0.049 and is significant, as a bootstrap confidence interval is entirely above zero (0.002 to 0.1283). The index of moderated mediation when no covariates are present is 0.101, and is also significant, as a bootstrap confidence interval is entirely above zero (0.013 to 0.239).

<sup>18</sup> Following Hayes (2018, pp. 613-620), we created a customized model using *bmatrix* syntax for the mediation paths and *wmatrix* syntax for the moderation effect of *punishment occurrence* as hypothesized. In the *bmatrix*, we allowed all paths between variables to be potential mediators so that non-significant mediators would indicate further support for our hypothesized model (this issue is discussed in the Supplemental Analysis).

<sup>19</sup> We did not conduct an ANCOVA as we did not predict any direct effects or interaction effects of the manipulated independent variables on tax compliance intentions.

<sup>20</sup> Government of Canada, Finance Committee meeting May 5, 2016. Online: <https://openparliament.ca/committees/finance/42-1/18/>