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„Perceiving Taxes:
Influence of Moral Suasion and Framing on Tax Compliance Behavior"

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Abstract

The present study aimed to explore the influence of moral suasion as well as the framing - in terms of gain and loss - on tax compliance behavior. I hypothesized that a gain framing will have a positive effect on tax compliance rather than a loss framing. In line with previous research I further assumed that moral suasion would positively influence tax compliance behavior. For this purpose, I conducted a two (moral suasion present vs. not present) by two (loss vs. gain framing) experimental online study to test the effect on tax compliance in a tax paying game. Participants had to earn and report their income over 12 decision rounds. A gain and loss framing presenting the net or gross income was used. Half of all participants were presented with a moral suasion at the start and the middle of the study. Results showed no differences between the four conditions. But participants with a moral suasion showed higher moral activation in a post-study survey. Most participants considered their morality during this tax game even when not confronted with a moral suasion. As the effectiveness of moral suasion was only partially effective, further research is needed to explore how moral suasion and ethics shape tax compliance behavior.

keywords: tax compliance, morale, moral suasion, ethic, tax motives, prospect-theory, gain, loss

1   Introduction

1.1   Tax Compliance and Decisions

Early research modeled the decision process regarding tax compliance as a decision under uncertainty (Allingham & Sandmo, 1972). The research assumed the decision people make as a rational one mostly influenced by consideration of audit probability, tax rate, fine rate and, income levels – known as the standard economic model. An increase of those parameters (e.g. more severe fines or regular audits) would increase tax compliance. Yet research regularly showed that people do not behave completely rational. Compliance levels in studies on taxes could not be completely explained through the levels of enforcement (Michael & Wilde, 1985). Additionally, in most countries the size of penalties and rates of audits are so low that most people would be expected to evade taxes in case of rational behavior, as the chance to be caught and penalized would be considered quite unlikely (Torgler, 2002). However, most individuals do pay their taxes regularly and other factors seem to play an important role in explaining the complex topic of tax compliance.

As Kahneman (2003) postulated individuals only access certain information in a given situation while failing to discount others. Because of limited cognitive capacities, they often tend to use heuristics in decision, which depend on the framing of a situation. As heuristics are an efficient way to reduce cognitive load, they are also prone to errors and only access part of presented information. Additionally, errors in perception of chance and tendencies of loss adjustment could influence such decisions (Mitone, 2006). Alm and Torgler (2011) suggested, that people rarely behave in the selfish, rational and self-interested people characterized in the standard economic paradigm. Rather, they are motivated by a lot of other factors grounded in aspects of morality, altruism, social norms and, fairness - generally categorized as "ethics". Several researches underlined the idea that more non-economic social factors as ethics, social norms, perceived fairness and psychological reactance, also play a major role in taxpaying behavior (e.g. Kirchler, 2007; Wenzel, 2004).

The standard economic model completely discards the applicability of the aggregate and an even more substantial restraint of the economic model was the neglecting of tax morale (Kirchler, Muehlbacher, Kastlunger & Wahl, 2010). While ethical believes and social norms were mentioned to play an important role there was not much knowledge on how exactly these factors contributed to tax compliance. It might yield important insides whether participants in a tax study behaved as they would in a casino (Muehlbacher & Kirchler, 2016). So far, this topic has only been researched in public good games and field experiments but to best of my knowledge not in classical tax experiments. The aim of this master's thesis is to

add to this gap by examining the influence of moral suasion in a classical tax experiment while also manipulating the reference point. [1]

1.2   Morale in Tax Studies

Several studies and empirical research in economics has centered on assessing how material incentives manipulated behavior. But there were no comparable studies on the impact of moral suasion, at least in classical laboratory tax experiments (Dal Bo & Dal Bo, 2014). Several approaches for norm-based interventions have been proposed, in which researchers focused on the relation between social norms and tax compliance (Onu & Oats, 2015). Similar, researchers have assembled vast knowledge about how moral statements or social norms of compliance influenced tax compliance and about the factors that shaped such sentiments (Kirchler, 2007; Torgler, 2007). These findings suggested that social norms are crucial to understanding compliance of the law. The consensus is, that social norms ensure functioning societies, as they are stable operators of people's actions (Onu & Oats, 2015). Less data is available, however, on how tax compliance is shaped by moral suasion and moral appeals. Thus, more studies have begun to explore compelling communications as another approach to encourage tax compliance (Hasseldine, Hite, James & Toumi, 2007). So far, normative interventions targeting tax compliance are scarce (Onu & Oats, 2015). But the so called *social norms approach* has been generally used to counter unhealthy behavior (e.g. smoking, alcohol abuse) and environmental behavior (.e.g. littering, recycling).Tax decisions are seen as a social dilemma, on one hand trying to profit from self-centered goals (e.g. maximize effective income) and community goals (e.g. enabling welfare system and health care) on the other hand (Kirchler, Muehlbacher, Kastlunger & Wahl, 2007). The consensus is, that moral sentiments and ethics operate as an important, possibly dominant factors in tax compliance (Alm & Torgler, 2011). Torgler (2002) concluded that people who comply assessed tax evasion to be immoral. Further, that higher compliance could be expected if moral appeals were presented to tax payers. The research of moral suasion on tax compliance up to this day mainly consisted of field experiments, effects of normative-based-videos, appeals in public good games and survey data. Surveys conducted by Alm and Torgler (2011) suggest that more compliant people tend to view tax evasion as "immoral" and thus concluded that compliance was expected to be higher if moral appeals were presented.

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[1]I would like to disclose, that the data used in this master's thesis was also used by Christian Bauer, since we conducted the experiment together. Also the main hypotheses are the same. Differences can be found in further hypotheses and the explorative analyses of the master's thesis. While my focus was on moral suasion and the perception of it, Christian focused on differences in perception in terms of framing in gain and loss.

In one of the first studies in this regard, Scholz, McGraw and Steenbergen (1992) compared the taxable income and liability of two groups of taxpayers. One group was presented with some normative-based-videos and compared to a control group. No significant effect was found.

Several field experiments on the effect of normative appeals on tax evasion were conducted (McGraw et al., 1991; Slemrod, Blumenthal, & Christian, 2001; Fellner, Sausgruber & Traxler, 2013; Hasseldine et al., 2007; Torgler, 2005, 2018), but found no significant impact on the reported tax declarations. Another field study examined the effect of honesty priming on online tax declarations in Guatemala (Kettle, Hernandez, Sanders, Hauser & Ruda, 2017). None of the treatments showed any significant effects on tax declarations. In contrast, Hallsworth, List, Metcalfeand and Vlaev (2017) conducted two large scale field experiment focusing on timely payment of taxes. Norm, descriptive and public-good messages were employed to increase moral cost and thereby payment rates. The authors found, that brief messages appealing to social norms, morals and financial costs are effective at convincing individual's to pay their taxes. A significant increase in tax compliance could be observed.

Dal Bo and Dal Bo (2014) conducted a study on the effects of moral suasion in a public goods game and contrary to most field experiments, found a significant positive effect. Different moral appeals in contrast to rational appeals were presented. Almost all moral appeals showed a positive effect.

In summary, several authors underlined the importance and presumed positive effects moral suasion should have on tax compliance. But contrary to that believe, most field studies failed to examine the expected influence. The used moral or normative suasions differed massively in terms of the used appeals and language. While some emphasized general appeal (e.g. "behave like you would like expect others to behave") others used real world tax language. Onu and Oats (2015) additionally differentiated between personal and social norms, subjective, injunctive and descriptive norms. Although, different norm types lead to different effects on people's behavior, only two earlier studies have measured the scope of norm types to compare their effects (e.g. descriptive, injunctive, subjective, and personal) (Bobek, Roberts & Sweeney, 2007; Bobek, Hageman & Kelliher, 2013). Due to the limited empirical work on this topic, more research is needed on how these norms exactly relate to tax compliance behavior (Onu & Oats, 2015).

Further, some studies highlighted the benefits of tax compliance while others emphasized the harm following under-declaration. It should be noted that field studies in

general lack internal validity and thus there was no way to control if participants really did read or engage with the presented moral suasions. Yet in contrast to the importance of this topic few studies specifically examined the effects of moral suasion on compliance in more controlled tax experiments.

To gain a better understanding how moral appeals shape tax compliance and which language had the most influence, I will closer differentiate past research and take a closer look on the field of honesty research.

1.2.1 Wording in tax studies

Most often in research there is no right and wrong answer but rather decisions with consequences. But in regard to the language and wording in tax studies the tendency goes towards using real tax language with real world consequences. First, it was recommended to instruct participants to complete a tax report than to maximize their gain (Torgler, 2004). Second, researchers recommended to employ real tax wording rather than neutral language (Muehlbacher & Kirchler, 2016). Early research found no differences in compliance rate whether tax language or neutral language was used for the instructions (Alm, McClelland & Schulze, 1992). Later research found higher compliance when studies were presented as involving taxes in contrast to neutral language. The research in terms of the language is not completely clear but emphasizes to employ real world tax terms.

1.2.2 Honestyresearch

A large body of literature examined the processes in honesty and unethical behavior such as evading taxes. The link between the appeal to gain from unethical behavior and the aspiration to sustain a positive moral appearance of self creates an internal conflict – termed "ethical dissonance", a serious internal psychological stress that threatens individual's self-concept and moral identity (Ayal & Gino, 2011; Barkan, Ayal, Gino, & Ariely, 2012). Research displayed that people used a multitude of self-serving justifications to lessen ethical dissonance and thus managed to do wrong but justified to feel moral at the same time (Shalvi, Gino, Barkan, & Ayal, 2015). Fortunately, the ethical dissonance could be used to counterbalance unethical towards ethical behavior by emphasizing high moral standards (Beshears & Gino, 2015). Understanding wrong doings and the factors that facilitated them could help to design countermeasures and work out meaningful interventions and policies.

For this purpose, Ayal, Gino, Barkan and Ariely (2015) have worked out a three-principle framework as a guideline for moral policies – called the REVISE framework. REVISE is an abbreviation assembled from the first two letters of the guidelines consisting of *reminding, visibility* and *self-engagement*. The guidelines of this framework generally state to highlight specific damage and consequences motivated by immoral behavior like non-compliance. Stressing the moral importance and benefits of tax money could be similarly beneficial. Restriction of anonymity and peer monitoring is also advised, but is not of major importance in this study, as anonymity of participants was guaranteed. Additionally, the framework states that moral suasions should be presented prior to tax decision to increase the motivation of maintaining a positive self-image and therefore commit people to act morally. A similar message is advised to be presented towards the middle of a study with the purpose of reminder.

The findings from honesty research and tax studies were both taken into consideration. In line with the literature, moral suasion, if presented in a clear visible way, using real world tax terms, either highlighting benefits or presenting consequences, prior and in the middle of a study, should yield the most positive effect on tax compliance.

It is noteworthy that the literature used a lot of different terms that basically describe very similar context (e.g. moral reminders, moral appeals, moral considerations, moral messages, etc.). In this master's thesis I favored the term moral suasion and use it from this point forward.

1.3 Framing of tax studies

The term framing in tax experiments is often used for either a reference point or the use of real tax language in contrast to neutral langue. In this study, framing was meant as a reference point in the presentation of income value (e.g. the net or gross income).Previous research of the standard economic model of tax compliance presents the taxpayer's decision - pay or evade tax - as a tradeoff between a gain through evasion or a loss in case evasion was detected and further penalized (Iyer, Reckers & Sanders, 2010). This is considered a gamble, as the decision is made under uncertainty.

Following the famous prospect theory of Kahneman and Tversky (1979) people behave differently in gain and loss situations. The reference point is regarded as an important element from which changes in income were measured (Alm & Torgler, 2011). Several authors have successfully been able to apply the prospect theory in the field of tax studies (e.g. Elffers & Hessing, 1997; Kirchler & Maciejovsky, 2001; Gideon, 1999). Different

authors have researched gain and loss framing in laboratory tax evasion or avoidance experiments through the withholding position of the tax payers (.e.g. Schepanski & Kelsey, 1990; Dusenbury, 1994; Jackson & Hatfield, 2005). An over-withheld position functioned as a gain frame with an under-withheld position regarded as a loss frame.

Prospect theory in the tax context is assumed to predict that taxpayers in a loss framing behaved risk seeking and further more aggressive towards their tax decision in contrast to taxpayer in a gain frame (Iyer, Reckers & Sanders, 2010). Thus, taxpayers in a loss position were less likely to be tax compliant than those in a gain position.

1.4   The Present Study

The purpose of this master's thesis was to explore the influence of moral suasion as well as the framing - in terms of gain and loss - on tax compliance behavior. The gain and loss framing was manipulated by presenting the net or gross income value respectively. The moral suasion was worded carefully following the advises of the REVISE framework (Ayal et al., 2015) and presented prior to the initial tax decisions and again, right in the middle of the tax decision phase. Participants not presented with a moral suasion functioned as a control group.

In line with previous research of framing in tax compliance studies (Kahneman & Tversky , 1979; Schepanski & Kelsey, 1990; Dusenbury, 1994; Jackson & Hatfield, 2005) I hypothesized that a gain framing will have a positive effect on tax compliance rather than a loss framing. Participants in loss framing are expected to be more risk-seeking and thus to evade more taxes.

H1a: The reference point in terms of gain and loss should influence tax compliance behavior. More precisely, tax compliance is expected to be higher in a gain framing than in a loss framing.

Several authors further pointed out the importance of moral suasion and the expected positive influence on tax compliance behavior (Hasseldine et al., 2007; Alm & Torgler, 2011; Dal Bo & Dal Bo, 2014; Ayal et al.,2015; Onu & Oats, 2015; Hallsworth et al., 2017). Moreover, honesty research in psychology regularly found moral suasion to be an effective asset towards honest behavior (Ayal et al., 2015). In line with previous research I assumed that moral suasion would positively influence tax compliance behavior.

H1b: Tax compliance is presumed to be higher if a moral suasion is presented

Following the argumentation of the REVISE framework, the timing of the moral suasion presentation was of major importance. The influence of such an appeal was assumed to be highest right after it was shown and to slowly fade over time. The moral suasion in this

study was presented at two times, once prior to the tax decisions and again in the middle. As the influence of the first presentation could only be measured over time, like in Hypothesis 1, the influence of the moral suasion should be most visible right after its second presentation.

H2: Compliance will rise right after a moral suasion is presented.

Following the argumentation on honesty research, ethical dissonance could be used to counterbalance unethical behavior towards ethical by emphasizing high moral standards (Beshears & Gino, 2015). Further, those presented with moral appeals should perceive themselves to be more moral or try to perceive themselves in line with their moral believes. As the tax study primary goal was to measure compliance behavior, some questionnaire items (described in detail in 2.1.2) were presented, aimed to measure moral activation.

H3: Participants presented with a moral suasion have a higher moral activation.

2 Method

2.1 Sample

In total 220 people participated in this study. Three participants did not give their consent to use their data and were thus excluded. Psychology student were to be excluded from the analysis, as their knowledge towards tax studies and the prospect theory could be assumed, leading to the exclusion of an additional 12 cases and a final sample of 205 in total. The sample was nearly evenly distributed between male and females with a mean age of 30.25. See Table 1. for details.

Table 1

Demographic data - Age distribution across conditions.

Condition	N	Age M(SD)
Gain	56	30.86 (12.12)
Loss	49	27.27 (20.77)
Loss*MS	51	32.25 (11.37)
Gain*MS	49	30.35 (23.85)
Total	205	30.25 (17.60)

Note. MS stands for the group presented with a moral suasion.

2.2 Materials

The present study compromised a mixed design with two between-subject factors and one within-subject factor composed of 12 repeated rounds. Both between-subject factors had two levels. The first between-subject factor consisted of the framing as either gain, where participants were presented with the net income value, or as loss, where participants were shown the gross income value. The second case resembles a situation as used in most classical tax experiments. The second between-subject factor varied whether amoral suasion was presented or not. Participants in the moral condition were presented with a moral suasion that highlighted the importance for the community, the balance of discrepancy regarding social differences, support of research and education, enabling of infrastructure and medical heath

care, hospitals as well as the care of the elderly (for details see 2.2.1 and Appendix B).The second moral suasion stressed the negative consequences regarding the same mentioned points. It was presented twice. First, right before their initial tax decision and, second, after round 6 of the tax game which is the middle of the 12 tax rounds. Participants were randomly assigned to one of the four resulting conditions.

Over the course of the 12 rounds of the tax experiment, tax-related parameters were varied to introduce some novelty over the rounds. There were two levels of tax rates, 20% and 40%, two levels of fine rates, 0.5 and 1.5, and three level of audit rates, 5%, 15% and 25%. These were presented to each participants prior to their initial tax declaration decision and each parameter's meaning was explained in detail. Following the definitions, three examples were shown to further participants' understanding.

At the start of the study a short introduction informed participants that financial decisions would be the main interest as well as decisions about paying taxes. (A detailed view of the study like participants viewed it can be seen in Appendix A). The estimated duration was around 30 minutes and as an incentive, one of three voucher could be won. For this purpose, one of the 12 tax experiment rounds was randomly drawn and saved in a separate document for all participants that relayed their email to be contacted. This should guarantee anonymity as the tax decision could not be compared to personal emails. Participants were also briefed that participation was voluntary, no psychological or physical harm would occur, the study could be interrupted without negative consequence, but loss of data, and lastly, an appreciation of participation and guarantee of anonymity was provided. As the study was conducted online via an internet browser, computer, laptops, smart phones, tablet or similar devise, it was advised to be in an undisturbed environment. The use of a computed or laptop with a mouse was advised, as this would make the materials most accessible. It was emphasized that there are no right or wrong answers following a consent to use the collected data of the study.

Next the procedure of the study was shown in depth and participants were informed of the initial situation before their tax decisions. Each round, participants received a fixed income of 1000 Experimental Currency Units (ECU). Additionally, up to another 1000 ECU could be earned by performing a real-effort slider task. The effort task consisted of 10 sliders, each different in width, and had to be moved to 50% to gain 100 additional ECU per slider. The percentage was presented above the slider and could be either clicked or drawn by a computer mouse. The time frame for each slider task was 20 seconds and a "landing page" prior to the task informed participants that the task began by clicking on the "next" button.

Those in the moral condition were then presented with a moral suasion (Appendix B).Participants were informed that the actual study was about to start, beginning with 20 seconds of the effort task to increase their income. The base income, additional income through the sliders, the sum as well as the tax rate in percentage, as well as that worth in ECU was presented. In the gain condition participant were shown the net income, so income after taxation, and in contrast, participants in the loss condition were presented with the gross income. The audit probability and the fine rate were presented and participants had to decide on how much tax to pay. Afterwards they were briefed whether they were audited. In case they were audited and paid taxes according to the tax rate, this information was relayed. In case participants were audited and did not pay the full amount, their income after the fine rate was shown and participants informed that an audit occurred. Also, a message informed participants if they were not audited. After 6 rounds participants in the moral condition were presented with another moral suasion.

After the 12 tax rounds, all attended were thanked for participating. Next followed a post study questionnaire further detailed in 2.2.2. Afterwards, participants were informed to keep quiet about the aim of the study, informed which rounds was drawn for the lottery and could relay their email. The last page showed a participation code for those recruited via the web page Surveycircle (Johé, 2016).

2.2.1 Moral Suasion

Based on the advice of the previously mentioned REVISE framework (Ayal et al., 2015) the moral suasion consisted of concrete benefits of paying taxes written in real world language. The mentioned benefits underlined the importance for the community, the balance of discrepancy regarding social differences, support of research and education, enabling of infrastructure and medical heath care, hospitals as well as the care of the elderly. The second moral suasion underlined the negative consequences of the same concepts in case of non-compliance. The moral suasion was also presented in a clear readable font and highlighted by a red frame around it. See Appendix B for exact wording. The time participants spend on each page was also measured.

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2.2.2 Post studyquestionnaire

Following the last round of the tax study participants were asked to fill out a number of items regarding the perception of paying taxes, their strategy, a manipulation check to see whether participants thought about morale, a scale on tax commitment, possible disturbances during the study, an open field about the supposed aim of the study and lastly socio-demographic data. All items are presented in detail in Appendix A.

Four items were designed to measure the perception of paying taxes, with statements derived from prospect theory (Kahneman & Tversky, 1978) on a five point Likert scale (1 = "completely agree" to 5 = "completely disagree"). The first two items asked how paying taxes felt (e.g. "like a financial loss", " like a reduction of my income") and the second two items had statements on how tax evasion felt (e.g. " a reduction of loss", "a gain of my winnings").

Next, three items asked participants about their goal during the tax decisions with the statements "being honest", "minimize loss" and "maximize gain" on a five point Likert scale (1 = "completely agree" to 5 = "completely disagree")..

The primary manipulation check regarding the moral condition was presented to all participants and asked whether they thought about morale during the study on a two-point scale with "yes" and "no" as answers.

Participants who were presented with a moral suasion were shown two additional items that functioned as another manipulation check. First, they were asked if they noticed a moral suasion with "yes" and "no" as options.

Afterwards, participants were presented with the first moral suasion, this time not in a red frame - just as plain text, and asked how much they felt influenced by the message. A five point Likert-scale (1 = "very strong", 2 = "strong", 3 = "somewhat", 4 = "not so much", 5 = "not at all") was used for this item.

Furthermore, one subscale from the motivational postures scale (Braithwaite, 2003) about commitment was conducted (e.g. "I feel morally obligated to pay my taxes"). In this case a five-point Likert scale (1 = "strongly agree" to 5 = "strongly disagree") was used. All presented item are described in detail in Appendix A.

Next, two items asked participants if they conducted the study in a quiet environment and a second open field was presented to type in what might have disturbed them. Both with "yes" and "no" as scales. To check whether participants understood that the ECU had an impact in the lottery, another "yes" and "no" question was presented.

In terms of socio-demographic data, participants were asked about their age, sex, occupational status, the degree of occupation and an optional open field for the field of study.

Additionally, participants were asked about their experience with paying taxes in the real world on a five-point Likert scale (1 = "none" to 5 = "a lot") and if they had participated in a tax study before ("yes" and "no"). The questionnaire afterwards measured the attentiveness of participants (e.g. "I read the information regarding the study carefully"), if they read all information and if the information was understood on a five-point Likert scale (1 = "No, not at all" to 5 = "yes, completely"). An openly structured question enabled participants to write about the supposed aim of the study (i.e. "What did you think was the aim of the study?").

2.3   Procedure

The study was conducted using the web-based software SoSciSurvey (Leiner, 2019). It was conducted online from the end of March 2018 to the end of June of the same year. Participants were recruited via friends, family and word of mouth and through the website Surveycircle (Johé, 2016). Users on this website can participate in others studies to promote their own study, up to a limit of 100. The minimum age to participate was 18 years.

Participants were thanked for taking part in the study and asked to keep silence about the concrete study until it ended. Lastly, those interested in partaking in winning a voucher could write down their email address in an open field, which was saved in a separate data file to guarantee anonymity.

To make sure all participants answered the questionnaires fully, an information message in red appeared suggesting to please fill out all information, in case they tried to skip over to the next page or forgot to fill out items.

3 Results

First, I present the steps taken for data preparation. Second, I report the results of the main hypothesis tests. Third, I present results of the manipulation check. Fourth, I take a closer look at the influence of deterrence factors. And lastly, I present additional explorations related to potential influences of data quality.

3.1 Data Preparation

To prepare the data for analysis some preparation was needed. As income varied between participants and rounds, relative tax compliance had to be computed, which served as the main dependent variable. It was created by dividing the paid taxes of each round by the tax due in the respective round. The results ranged from zero - full evasion - to one - full compliance. A mean compliance for all 12 tax rounds was also calculated. These relative compliance scores were used for the analysis.

Three participants paid a multitude of the needed tax rate and were set to a relative compliance of one. Additionally, two participants presumably mistyped their age , but were both also working and had otherwise meaningful data, so the age of these two were set to missing values.

Item seven of the motivational postures commitment scale (Braithwaite, 2003) lead to two components when used in a principal component analysis. As that item (i.e., "I resent paying taxes") rather measured emotional content in terms of resentment in contrast to the rest of the used scale, it was excluded from the analysis. An exclusion of the particular item resulted in one extracted component. I computed the mean score of the remaining seven items, used later on.

3.2 Test for the Main Hypotheses

In order to test the set of H1a and H1b, I conducted a two-way ANOVA with the mean of relative compliance as the dependent variable and framing as well as moral suasion as independent variables. There was no significant effect of framing on relative compliance, $F(1, 201) = 1.09$, $p= .298$, $\eta_p^2 = .005$, nor an effect of moral suasion, $F(1, 201) = 0.62$, $p= .430$, $\eta_p^2 = .003$. Additionally, no significant interaction between both factors could be found, $F(1, 201) = 0.73$, $p= .393$, $\eta_p^2 = .004$. This means that neither the framing nor the moral suasion showed differences between the groups on relative compliance. Likewise, no interaction between both factors on compliance was found.

As the two-way ANOVA used the means (so an aggregation) of all twelve rounds and further did not account for the repeated measures of the tax study, I additionally ran linear

mixed-effects regression with a random intercept for individuals to test the effect of framing and moral suasion on relative compliance. Such analysis accounts for the repeated measures structure of the data. Results are detailed in Table 2. Model 1 confirms the established ANOVA results. Again no differences between the groups could be found.

Table 2

Linear mixed-effects regression with relative tax compliance as dependent variable

	Model 1	
Variables	*B*	SE
Intercept	.533**	0.04
Framing	.06	0.04
Moral Suasion	.07	0.06
Framing*Moral Suasion	.08	0.06
Random effects	σ^2	
ID	0.29	
Residual	0.31	

*p< .05; **p< .01; ***p< .001.

Note. $N = 205$ with 12 repeated measures and $df = 201$. Framing was coded with 0 = *gain* and 1 = *loss*. Moral Suasion was coded with 0 = *moral suasion* and 1 = *no moral suasion*.

Figure 1 shows the compliance rates of every of the twelve rounds. These seemed to be stable between all four conditions and compromised similar trends. This underlined the findings of Model 1, which showed no differences between the four conditions regarding tax compliance. Thus, there is no support for H1a and H1b.
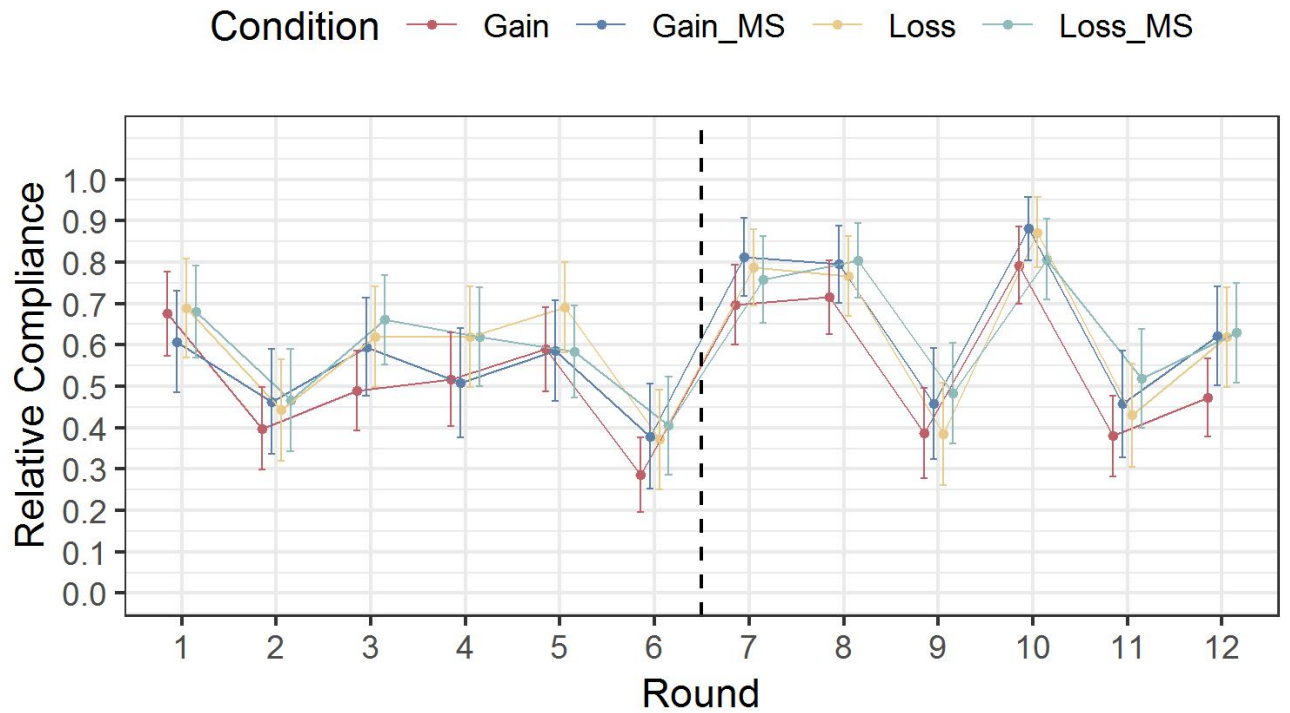
Figure 1: Tax compliance across all 12 rounds with 95% Confidence Intervals. The dotted line indicates the presentation of the moral suasion.

The two manipulations - the framing towards gain and loss and the presentation of moral suasion - showed no effect on tax compliance. As the moral suasion was presented once prior to round one and again after round 6, as indicated by the dotted line in Figure 1, the effect of moral suasion on tax compliance should have been most visible between round six and seven. For this purpose, I ran a two-way Multivariate ANOVA with relative compliance of rounds six and seven as the dependent variables and moral suasion and framing as independent variables. There was no statistically significant effect of framing on relative compliance, $F(2, 200) = 0.71$, $p = .630$, $\eta_p^2 = .005$. There was also no statistically significant effect of the moral condition on relative compliance in these two selected rounds, $F(2, 200) = 0.71$, $p = .491$, $\eta_p^2 = .007$. There was further no significant interaction between the framing and the moral condition, $F(2, 200) = 1.11$, $p = .352$, $\eta_p^2 = .010$..The results showed that compliance between the conditions did not differ. Especially the interested presentation of the moral suasion showed no differences in terms of compliance. In conclusion, H2 was also not supported. Other influence variables on tax compliance will be further discussed in the exploratory results later.

3.3 Moral Activation by Moral Suasion

To test for moral activation the motivational postures commitment scale (Braithwaite, 2003) as a questionnaire was used. For the utilized seven items, a principal component analysis was conducted. One component with an *eigenvalue* greater than one was extracted and no rotation was generated. I considered Kaiser Criterion (*eigenvalue* > 1) for component extraction. A single principal component was found (*eigenvalue* = 3.636) accounting for 51.95% of total variance.

To test H3, the computed mean score was used. Next, I conducted a two-way ANOVA with the motivational postures mean score as the dependent variable and moral suasion and framing as independent variables. The was a significant effect of moral suasion on the motivational postures score, $F(1, 201) = 4.63$, $p= .032$, $\eta_p^2 = .023$. In contrast no significant effect of framing, $F(1, 201) = 2.14$, $p= .145$, $\eta_p^2 = .011$, or interaction between framing and moral suasion, $F(1, 201) = 1.79$, $p= .182$, $\eta_p^2 = .009$, was found. A closer look at the motivational postures score in the moral suasion condition, $M= 3.90$, $SD = .72$, showed a higher values and thus higher moral activation, as compared to the no moral suasion group, $M = 3.67$, $SD = .73$. Therefore, the results showed indeed higher moral activation in the moral suasion group. But the observed difference was not that big and distributions clearly overlap. Still this finding was in line with the previous assumption, thus H3 could be accepted.

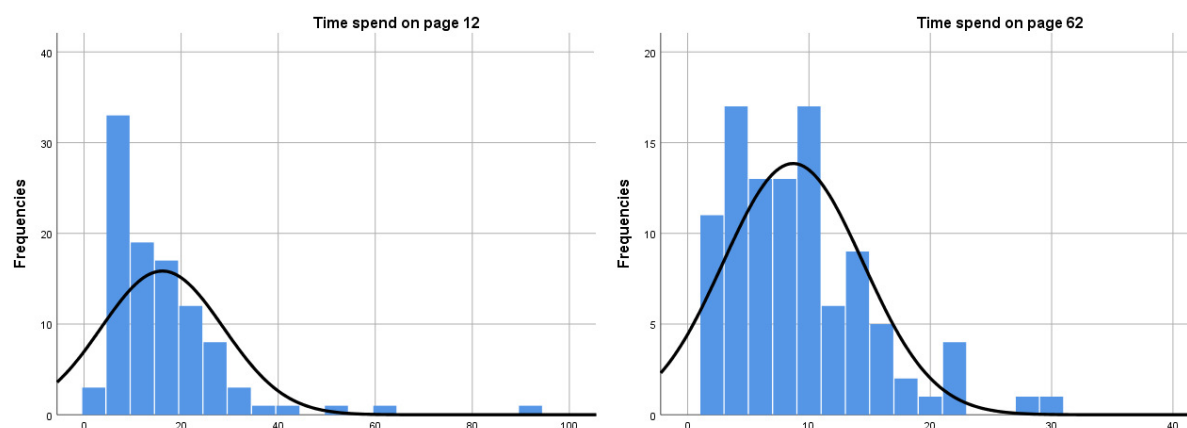### 3.4 Manipulation Check of Moral Suasion

To control if the moral suasion was perceived and how strongly it was perceived, three different items were used. The first one was presented to all participants independent of the conditions. The other two items were only shown to participants presented with a moral suasion. The first item for this purpose asked if participant thought about morale during the study with option "yes" and "no". 55.1 % of all participants had answered with "yes" in contrast to 44.9% that had answered with "no". As 100 participants were in the moral condition and thus presented with a moral suasion, this meant that more participants were thinking about morale than presented with a moral suasion. But a closer look at the moral condition revealed that only 54 % of those participants presented with a moral suasion thought about moral. Participants not in the moral condition answered that 56.2 % were thinking about morale. With only about half of all participants in the moral condition thinking about morale, the manipulation was not successful.

The second manipulation check item asked participants if they noticed a moral suasion at all during the study. The possible answer consisted again of "yes" and "no". Only 69% of the participants that were shown a moral suasion indicated to have perceived them. Overall, most participants did perceive a moral suasion if it was presented but also far less than expected. As the moral suasion was presented at two different times and also highlighted, all participants should have observed them. As 31 % of the participants indicated to not have seen a moral suasion, the second manipulation check was also not successful. The third manipulation check asked participants how much they felt influenced by the presented moral suasion. One of the shown moral suasions was presented below the question as a reminder. The item was measured on a 5-point Likert scale with options "5 = not at all', "4 = somewhat", "3 = some", "2 = strongly" and "1 = very strongly". The results $M = 3.31$, $SD = .123$ showed a trend towards the middle. Most participants answered to be influenced by the moral suasion to some extent, while more participants seemed to be not influenced rather than strongly influenced. Considering the second manipulation check in which only 69 % observed the moral suasion, those participants were additionally used for the third manipulation check. The results, $M = 3.16$, $SD = 1.232$, showed a similar trend towards the middle. Participants showed neither strong nor no influence by the morals suasion. Most participants that previously noticed the moral suasion were only to some extend influenced by it. Therefore, the third manipulation check was also not successful.

Another way to get some more insights on whether the manipulation was successful was to compare how much time participants spend on the pages where the moral suasion was presented. Soscisurvey (Leiner, 2019) saved this information by default. Page 12 and 62 respectively showed participants the moral suasion and were used to see how much time they spend on each page. Figure 2 shows the histograms of both moral suasion pages in detail. Participants spend far more time on the first moral suasion page than on the second one. Participants spend an average of $M = 8.69$ seconds on page 62. This was arguably not enough time to fully read and comprehend the moral suasion. In line with the literature on moral suasion (i.e. REVISE, Ayal et al. 2015) the second reminder could be considered the more important one. A substantial amount of participants seemingly did not spend much time reading the second moral suasion. This might have been one big reason why the manipulation checks were rather unsuccessful.

Figure 2. Time spend on page 12 and 62, the moral suasion presentation pages.

In conclusion, these results underline the marginal finding of the moral suasion manipulation. Only 69 % of all participants noticed the moral suasion, answered to be only somewhat influenced by it and the manipulation showed no difference on tax compliance behavior but on the moral postures questionnaire. The manipulation of moral suasion in total was not successful and clearly had some limitations and shortcoming that will be more deeply discussed (see 5.1 Limitations).

3.5   Exploratory Analysis

3.6   Deterrence factors on compliance

The first point of interest was to get a deeper understanding of the relative compliance data, as it was the main interest in this thesis and seemed to follow a similar trend across all twelve tax decision rounds (see Figure 1 for a graphic overview). I ran a linear-mixed effects regression with a random intercept for individuals to account for the repeated measures structure of the data. Results are shown in Table 3. A first topic of interest was to test for the so called "Bomb Crater Effect" (Mittone, 2006), I also included a dummy variable "Audit-1", entailing information on whether there had been an audit in the previous round. Model 2 shows that participants were less compliant when they were audited in the previous round. The four conditions showed again no significant results in Model 2.

The graphic overview in Figure 1 shows the tax compliance across all 12 tax decision rounds. All four conditions seemed to follow a similar, stable trend. As the deterrence factors are presumed to have a major influence on compliance and were the same across all four conditions, I took a closer look at them. In Model 3 I tested how, in addition to the variables in the previous models, the deterrent levels predict relative tax compliance. The results of

Model 3 showed that tax rate, audit probability and fine rate all had a significant effect on tax compliance. Furthermore, the "Bomb Crater Effect" was previously observed when the audit and the four conditions were compared. But when put in a model with all deterrents, audit is no longer significant. The results of Model 2 suggested, that participants audited in the previous round were less compliance in the following round. But in contrast, results of Model 3 show that this can no longer be supported. Rather, participants seemed to have oriented on primary on the deterrence factors regarding their tax compliance decisions. Thus the "Bomb Crater Effect" can no longer be supported.

The results of Model 3 were in line with the similar tendency across all twelve rounds. Most participants seemed to have oriented their tax decisions primary on the levels of tax rate, audit probabilities and fine rates. Neither moral suasion nor the framing as gain or loss had a major influence on tax compliance compared to the three deterrents. The first observed "Bomb Crater Effect" was also overshadowed when compared to the influence of deterrents and could no longer be accepted.

Table 3

Linear mixed-effects regression with relative tax compliance as dependent variable

| | Relative Compliance | | | |
| | Model 2 | | Model 3 | |
Variables	*B*	*SE*	*B*	*SE*
Intercept	0.54***	0.04	0.34***	0.04
Framing	0.07	0.06	0.06	0.06
Moral Suasion	0.08	0.06	0.07	0.06
Framing*Moral Suasion	0.09	0.06	0.09	0.06
Audit -1	-0.1***	0.02	-0.1	0.02
Tax Rate			-0.06***	0.01
Audit Rate1			0.20***	0.01
Audit Rate2			0.30***	0.01
Fine Rate			0.11***	0.01
Random effects	σ^2		σ^2	
ID	0.29		0.29	
Residual	0.28		0.31	

*p< .05; **p< .01; ***p< .001.

Note. N = 205 with 12 repeated measures and *df* = 201. Framing was coded 0 = *gain* and 1 = *loss*. Moral Suasion was coded 0 = *moral suasion* and 1 = *no moral suasion*. Tax rate was coded with 0 = *20%* and 1 = *40%*. Audit-1 was coded with 0 = *no-audit* and 1 = *audit*. Audit Rate 1 was coded with 0 = *5%* and 1 = *15%*. Audit Rate 2 was coded with 0= *5%* and 1= *25%*. Fine rate was coded with 0 = *0.5* and 1 = *1.5*.

## 3.7 Influence of time on focal effects

A closer look at the total time participants spend to finish this study (see Figure 3 for details) revealed that some were rather fast. Ten percent of all participants finished the study in a total 780 second, or 13 minutes. Taking into account that prior to the initial tax decision rounds, tax descriptions and examples were presented, and following the twelve tax rounds some questionnaire items, those ten percent presumably spend less than a minute for their tax

declaration decisions. Furthermore, each round began with a real-effort task, fixed at 20 seconds, which could not be fast forwarded. Arguably such a short decision time did not invite informed decision making and thus I wanted to explore whether excluding the ten percent fastest participants would result in clearer effects.

      Participants with a total completion time below 780 second were excluded and the main two-way ANOVA model with mean compliance as dependent variable and framing and moral suasion as independent variables was conducted again. There was no significant effect of moral suasion, $F(1, 181) = 1.22$, $p= .269$, $\eta_p^2 = .007$. There was also no significant effect of framing, $F(1, 181) = 1.63$, $p= .202$, $\eta_p^2 = .009$. Further, there was no interaction between both conditions, $F(1, 181) = 1.26$, $p= .262$, $\eta_p^2 = .007$.

      Excluding the ten percent fastest participants showed no differences regarding the main effects of interest. Even after exclusion, there was still no difference between the relative compliance of both framing groups, both moral suasion groups and also no interaction between both.

Figure 3. Finishing time of all participants
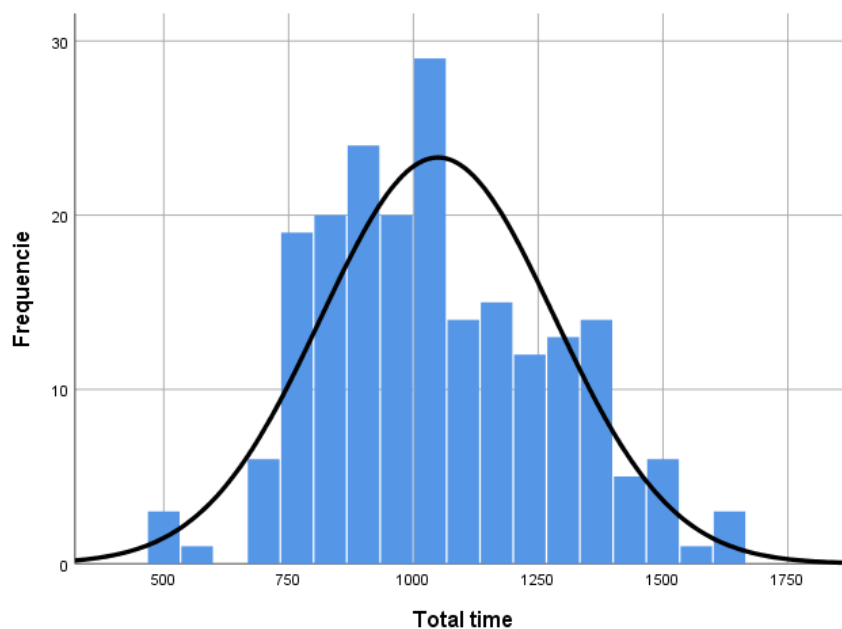
4   Discussion

The aim of this master's thesis was to identify the influence of moral suasion and framing on tax compliance behavior. The moral suasion was worded carefully with the advice of the REVISE framework (Ayal et al., 2015) and presented prior to the tax decision and again after half of the tax rounds to maximize effectiveness. The framing was presented in form of different income values, the net and the gross income, to see if differences in risk-seeking behavior and thus a difference in tax compliance would occur. Further, the motivational postures scale (Braithwaite, 2003) was presented as a post-study questionnaire to measure possible differences in moral activation.

I observed no differences in tax compliance behavior between the four study conditions. I find no support that framing the income towards gain or loss has any effect on tax compliance (H1a). I additionally find no influence of moral suasion on tax compliance (H1b). There is also no observable interaction between both conditions on tax compliance. Participants in a loss framing are expected to be more risk seeking and participants in a gain framing to be more risk averse (Kirchler & Maciejovski, 2000). Thus, participants in a loss framing are expected to be less tax compliance than those in a gain framing (Iyer, Reckers, & Sanders, 2010). Most researchers agree on the direction of this effect. Contrary to the literature, I do not find results that support this claim. Even excluding the fastest ten percent of participants, arguably those that did not make informed decision, does not change the results.

The results regarding the effect of moral suasion on tax compliance is in line with most findings in field experiments (McGraw & Scholz, 1991; Blumenthal et al., 2001; Fellner et al., 2013; Torgler, 2013, Kettle et al., 2017). Tax compliance was not higher after a moral suasion was presented (H2). The REVISE framework (Ayal et al., 2015) was used to maximize effectiveness of the moral suasion, furthermore enriched by real world tax language (Muehlbacher & Kirchler, 2010). As Dal Bo and Dal Bo (2014) mentioned, it was interesting to see if moral suasion in other settings than field studies and public good games would have any influence. But at the same time taxpayers seem to follow rather complex postures when paying taxes (Braithwaite). Kirchler (2007) emphasized that social norms would be of most importance to understand why people comply with the law and much further research was needed to see exactly how moral suasions shape tax compliance. In this regard, public good games are far more suited in researching this gap of knowledge, as they allow for direct interaction between participants and to implement social norms. In contrast, a tax study like this one has no negative consequences for any other participant. No one gets hurt in case of

non-compliance, there is no community to benefit from the taxes and the stressed importance of the moral suasion is in the context of this study, only a hypothetical one, only observable in the real world with real taxes.

Higher moral activation could be observed in the moral suasion condition compared to the no moral suasion condition measured with the motivational postures (Braithwaite, 2003). The group presented with a moral suasion shows higher moral activation in the seven items (H3).The findings suggest that moral suasion shows higher moral activation when asked through a survey. But as the results of the manipulation check also show, not necessary on a conscious level. Surprisingly, more participants than presented with a moral suasion answered to have thought about morale during the study. This could mean that even when there was no one to cheat from, no negative consequence for any participants during the study, most participants regarded twelve rounds of game like tax decision to be something moral. It seemed clear that moral suasion plays an important, maybe even dominant role in tax compliance and understanding the "ethics" in tax compliance is of utmost importance. (Alm & Torgler, 2011).Participants thought about morale during the study, even more than presented with a moral suasion. Some authors even pointed out that major determinants of honesty (e.g. moral suasion) could only play a lesser role in the laboratory (Kirchler, Muehlbacher, Kastlunger & Wahl 2010) and participants might behave as if they were in a casino. The findings of this study do not support this claim, but rather that participants still think about moral while confronted with tax decisions, but moral suasion seems to have no important effect on these decisions. Keeping in mind the results of the previous Hypothesis, moral suasion seems does not influence tax decisions on a behavioral level but seems to activate moral considerations.

Overall most Hypotheses could not be supported. Some effects, like the manipulation of the gain loss framing, is often observed in literature and quite consistent in its influence on tax compliance. Manipulations of moral suasion in contrast are often expected to have a positive influence but are not often observed in studies. Moral activation through reminders or appeals are mostly noticed in honesty research. The results of this master's thesis are in that regard somewhat perplex but there might be a couple of reasons why no effects could be found. The data quality of this study could still be improved. Half of the studies participants were recruited via the webpage Surveycircle (Johé, 2016). As recruitment is often difficult to come by, webpage's that enable researchers to share studies help enormously. But at the same time, participants recruited that way might be motivated by other means (e.g. to promote their own study) and consequently behave differently. Next, some survey items were constructed

especially for this study but not previously tested in terms of reliability, validity, etc. Furthermore, vouchers were used as incentives instead of the usual monetary gain. In terms of accessibility, the study was conducted online. This might have negatively influenced the data quality, as participants could have been multitasking, disturbed or otherwise engaged compared to a laboratory that controls such variables. Moreover, the manipulation check failed. Less participants than should have, noticed the moral suasion, most felt not really influenced by it and as the second moral suasion was presented, lots of participants spend so little time on that page, that it can be assumed not to be carefully read. Therefore, it makes sense that no differences in tax compliance could be found between groups and compliance did not rise after the presentation of the moral suasion. In contrast, moral activation was higher in the group that saw a moral appeal. But as the manipulation check failed and most participants did not feel influenced by said message, this results is quite astonishing. As a survey was used, it might be a form of social desirability bias or rather that a moral suasion might influence participants to present themselves as moral when asked about it. Moral suasion might also only work on a subconscious level. To gain a better understanding of these points might be of great interest to understanding moral suasion and its mechanisms.

Summarized, I could not find support for the effect of a gain loss framing on tax compliance, nor of moral suasion and an interaction of both. Tax compliance did not differ right after the presentation of a moral suasion, on which the message was presumed to be most effective. In line with previous studies, the clearest effects on tax compliance were observed for audit probabilities, fine rates and the tax rate (Muehlbacher & Kirchler, 2016). But I could find that participants that saw a moral suasion showed higher moral activation, when asked through a set of questionnaire items. The findings of this master's thesis do not support the assumption that moral suasion and framing influences tax decisions in an experimental setting.

4.1 Future Research and Limitations

There is not much research on how moral suasion shape tax compliance in classical tax decision experiments. As social norms and interactions play an important role public good games are far more suited for this approach. Alm, McClelland and Schulze (1999) suggested that the social norm of tax compliance could be influenced by group communication. They find that participants select greater levels of enforcement in general once they communicate with others. But once communication is combined with voting, the social norm of tax compliance changed in favor of paying taxes as the accepted mode of behavior. Public good

games focus on the interaction between individuals and collective rationally which further motivates moral thinking and much of politics and public finance (Dal Bo & Dal Bo, 2014). The design of this study could not account for social interaction. As most tax studies don't involve interaction, future research should focus on public good games or studies that accounts for social interaction when investigating the influence of moral suasion on compliance or honesty.

Furthermore, the REVISE framework (Ayal et al., 2015) advises to present the first moral suasion prior to the start of the initial tax decision rounds. But this advise also made it impossible to discern the effectiveness of a moral suasion as there was no baseline to compare it to in case of the first moral suasion. Future research might rather benefit from presenting such a message early but not necessarily prior to tax decisions.

In this master's thesis, participants were not forced to read the moral suasion as the button to continue was right-out present. Participants might have just skipped over it during their study as the average time of about nine second time spend on the second moral suasion page suggests. Especially since the second moral suasion was assumed to have the most impact, future research should make sure, that participants actually read important messages, or make it harder to just skip by.

Further, the presentation of a moral suasion in a tax experiment might have resulted in a demand effect. Paired with social desirability the effectiveness of the moral suasion in this study is quite hard to estimate. Future research should try to mask such demands to get a better understanding on how moral suasion influences moral activation, honesty and tax compliance. An alternative approach to surveys is also advised. Anonymity has shown to be an efficient approach to reduce self-presentational concerns and social desirability (Thielmann, Heck & Hilbig, 2016). Even thou anonymity was guaranteed, future research should strengthen participants believe in anonymity or research how different forms of anonymity in combination with moral suasion shapes tax compliance.

Tax compliance behavior in this study was generally quite high and a moral suasion might not have influenced those already honestly declaring their taxes. But on the other hand, it seemed to have also not influenced those aiming to maximize profits. As this study only incentivized with vouchers instead of the usual monetary gain, a replication with real money might show different results.

Prior to the start of the study, I conducted a power analysis to estimate aspired group size per condition. Due to time reasons, the study was finished before the aspired group size

was met. Thus each group size was about 20 participants smaller than originally anticipated. Bigger groups might have shown significant results, which would be of interest for future.

Additionally, as recruiting participants proved to be rather difficult, the help of the website Surveycircle (Johé, 2016) was enabled. As users of this website promote their own studies and gain incentives for participating in other studies, it is unclear if those participants might behave differently as their motivation for participation might differ. In total, about half of all participants were recruited via this site but could not be differentiated afterwards. Thus, future research should compare participants of similar websites to other participants.

Generally, the sample size of this study was quite big. The age distribution was homogenous and as well as the distribution of students and workers.

Transferring the results of this study would have severe implications for policy makers and tax presentation. If the results of this study were true, the presentation of gain of loss would not change tax compliance behavior. People would not behave more risk seeking in loss situations. As most taxes are collected automatically every month, this would primarily influence self employed workers. Next, moral suasion would not influence tax compliance behavior. Neither in general nor right after it was shown. As the results further suggest, when two moral suasion are presented on different occasions and share some similarities, the second presentation would be skipped over briefly by most. This would also mean, that moral appeals included in tax returns or included in letters, would not influence readers much or be skipped entirely. As moral suasion is a very resource friendly opportunity to positively influence tax compliance behavior, policy makers should make sure they are read. Contrary, as most people briefly read the moral suasion and indicated to be only slightly influenced, a difference in moral activation could still be found. This might only be on a subconscious level or due to social desirability in survey. But this also means, that this moral activation could be harnessed to influence behavior, once we understand more about the underlying mechanisms. This would be a cost efficient way to positively influence tax compliance and thus benefit the whole community.

4.2   Conclusion

With the present master's thesis, I investigated the influence of framing and moral suasion on tax compliance behavior. As the importance of moral suasion on honesty and compliance is often assumed to be a positive one (Ayal et al. 2015; Muehlbacher & Kirchler, 2010), policy makers and the community for which taxes are eminent can only benefit from understanding more about this gap. Contrary to the assumptions, I could neither find an

influence of framing on tax compliance, nor on moral suasion on tax compliance and also no interaction between both. But participants presented with a moral suasion showed higher moral activation even thou the manipulation check showed only partial success. Interestingly more than presented with a moral suasion were thinking about morale while conducting a tax decision study with game like character and tax compliance was overall pretty high. Tax compliance is a complex topic with many different factors that influence it. As the moral suasion emphasized, taxes are essential for societies to sustain and benefit the majority. Therefore each bit we learn about this complex topic benefits the majority and helps to sustain society.

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6 Appendices

6.1 Appendix A.

Depictive representation of the experimental procedure.

Introduction to the experiment

Sehr geehrte/r Teilnehmer/in,

vielen Dank für Ihre Teilnahme an dieser Studie. Die Studie untersucht finanzielle Entscheidungen und wird ca. 30 Minuten lang dauern. Im Gegenzug erhalten Sie die Möglichkeit einen Gutschein zu gewinnen.

Die Studie besteht aus 10 bis 15 Spielrunden. Jede Runde beginnt mit einer Aufgabe, in der Sie in Abhängigkeit Ihrer Leistung ein Einkommen bekommen. Danach erhalten Sie Informationen über das Zahlen von Steuern und müssen entscheiden wie viel Steuern Sie zahlen.

Die Teilnahme an der Studie ist freiwillig. Sie haben das Recht die Teilnahme zu verweigern oder die Studie abzubrechen, sobald Sie begonnen haben, ohne negative Konsequenzen und ohne sich dafür rechtfertigen zu müssen. Die gewonnenen Daten werden vertraulich und anonym behandelt. Die Teilnahme an dieser Studie birgt keine psychischen oder physischen Gefahren in sich.

Danke im Voraus für die Teilnahme an dieser Studie!

`Weiter`

Wir bitten Sie die Studie in einer möglichst ruhigen Umgebung durchzuführen. Des Weiteren ist die Studie für PC bzw. Laptop Browser optimiert, weshalb es bei der Nutzung auf anderen Geräten zu einer veränderten Darstellung kommen kann.

`Weiter`

Hiermit bestätige ich, dass ich alle Informationen gelesen habe.

Ich weiß, dass die Teilnahme freiwillig ist und ich das Recht habe die Teilnahme zu verweigern oder die Studie abzubrechen. Die Informationen werden dabei anonym behandelt. Wichtig ist uns dabei Ihre Meinung, es gibt also keine richtigen oder falschen Antworten.

Ich erlaube Ihnen mit den gewonnen Daten zu arbeiten und sie für 10 Jahre zu speichern.

Hiermit bestätige ich, dass ich an dieser Studie teilnehmen will:

○ Ja, ich bestätige und will an dieser Studie teilnehmen.
○ Nein, ich will nicht teilnehmen.

`Weiter`

Diese Studie befasst sich mit finanziellen Entscheidungen.

Die folgende Situation ist die Ausgangssitiuation:

Sie erhalten jede Runde ein **Basiseinkommen von 1000 ECU** (Experimental Currency Units). Außerdem können Sie jede Runde ein **zusätzliches Einkommen** von bis zu **1000 ECU** verdienen. Dies hängt von Ihrer Leistung in einer einfachen Aufgabe ab (Erklärung folgt noch). Ihr maximales Einkommen pro Runde beträgt **2000 ECU.** Anschließend sollen Sie Ihre Steuern zahlen.

Der **Steuersatz** , die Wahrscheinlichkeit einer **Steuerprüfung** und das **Strafausmaß** bei Hinterziehung wird in jeder Runde **variieren**. Lesen Sie deswegen bitte sorgfältig alle Informationen.

Definitionen:

Steuersatz ist der prozentuelle Anteil Ihres Einkommens, welchen Sie als Steuer zahlen müssen.

Eine **Steuerprüfung** findet statt um herauszufinden, ob Sie Ihre Steuern in voller Höhe gezahlt haben. Die Wahrscheinlichkeit geprüft zu werden wird prozentuell angegeben. Wenn Sie Ihre Steuern nicht in voller Höhe zahlen und dabei erwischt werden, müssen Sie den fehlenden Betrag plus eine Strafe (siehe unten) zurückzahlen.

Das **Strafausmaß** beschreibt wie viel Sie zahlen müssen, wenn Sie nicht ihre gesamten Steuern gezahlt haben und geprüft wurden.

Weiter

Um ein **zusätzliches Einkommen** zu verdienen werden Sie jede Runde eine Aufgabe, den Slider-Task, ausführen.

Sie werden 10 Slider und einen Timer mit 20 Sekunden sehen. Ihre Aufgabe ist es jeden Slider **exakt in der Mitte** bei **50%** zu platzieren. Sie erhalten **100 ECU** für jeden korrekt platzierten Slider.

Bitte beachten Sie, dass Sie nur dann ein zusätzliches Einkommen erhalten wenn der Slider **exakt** bei 50% platziert ist. Ist er, zum Beispiel bei 49%, bekommen Sie kein zusätzliches Einkommen. Es ist kein Unterschied ob der Slider bei 49% oder 0% platziert ist, beide Szenarien werden als nicht richtig bewertet.

Auf dieser Seite finden Sie einen Probe-Slider. Platzieren Sie ihn bei 50% und klicken Sie auf 'weiter'.

Achtung: Es ist nicht notwendig den Slider zu ziehen. Sie können ihn direkt per Mausklick platzieren.

Weiter

Teilnahmevergütung

Unter allen Teilnehmenden dieser Studie werden 3 x 20 Euro **Gutscheine** eines Anbieters ihrer Wahl verlost. Ihre **Gewinnwahrscheinlichkeit** hängt allerdings davon ab, wie viel **Nettoeinkommen** Sie in den kommenden Runden verdienen. Dafür wird **eine Runde zufällig gezogen** und Ihre Nettoeinkommen dient als Gewichtung in der Verlosung der Gutscheine. Das bedeutet, dass Sie Ihre Gewinnchancen erhöhen können, indem Sie möglichst viel ECU pro Runde verdienen. Sie können Ihr Nettoeinkommen erhöhen indem Sie im Slider-Task viel Zusatzeinkommen generieren und gegebenenfalls Steuern hinterziehen.

Wenn Sie die Studie **vorzeitig abbrechen**, können wir Sie nicht für die Teilnahme entschädigen.

Weiter

Examples to see if participants understood the procedure

Bitte bearbeiten Sie die folgende Aufgabe zur Überprüfung des Verständnisses:

Beispiel 1

Ihr Basiseinkommen beträgt 1000 ECU, zusätzlich verdienen Sie 800 ECU. Ihr Einkommen vor Steuern beträgt 1800 ECU. Der Steuersatz liegt bei 40%, bezogen auf Ihr Einkommen also 720 ECU. Sie zahlen die kompletten 720 ECU der vorgeschriebenen Steuer und es findet keine Prüfung statt.

Wie groß ist Ihr Gesamteinkommen nach dieser Runde?

[   ]

Beispiel 2

Ihr Basiseinkommen beträgt 1000 ECU, zusätzlich verdienen Sie 900 ECU. Ihr Einkommen vor Steuern beträgt 1900 ECU. Der Steuersatz liegt bei 20%, bezogen auf Ihr Einkommen also 380 ECU. Sie zahlen 100 ECU der vorgeschriebenen Steuer und es findet keine Prüfung statt.

Wie groß ist Ihr Gesamteinkommen nach dieser Runde?

[   ]

Beispiel 3

Ihr Basiseinkommen beträgt 1000 ECU, zusätzlich verdienen Sie 700 ECU. Ihr Einkommen vor Steuern beträgt somit 1700 ECU. Der Steuersatz liegt bei 40%, bezogen auf Ihr Einkommen also 680 ECU. Sie zahlen 280 ECU der vorgeschriebenen Steuer. Eine Prüfung findet statt und Sie müssen die Fehlenden 400 ECU nachzahlen, sowie 200 ECU (bei einem Strafmaß von 0.5).

Wie groß ist Ihr Gesamteinkommen nach dieser Runde?

[   ]

[Weiter]

Hier sehen Sie die korrekten Antworten im Detail:

Auflösung zu Beispiel 1:

Basiseinkommen:	1000 ECU
Einkommen Slider-Task:	+ 800 ECU
Einkommen vor Steuern:	= 1800 ECU
Steuern gezahlt (Steuersatz: 40 % = 720 ECU):	- 720 ECU
Einkommen nach Steuern:	= 1080 ECU

Auflösung zu Beispiel 2:

Basiseinkommen:	1000 ECU
Einkommen Slider-Task:	+ 900 ECU
Einkommen vor Steuern:	= 1900 ECU
Steuern gezahlt (Steuersatz: 20 % = 380 ECU):	- 100 ECU
Einkommen nach Steuern:	= 1800 ECU

Auflösung zu Beispiel 3:

Basiseinkommen:	1000 ECU
Einkommen Slider-Task:	+ 700 ECU
Einkommen vor Steuern:	= 1700 ECU
Steuern gezahlt (Steuersatz: 40 % = 680 ECU):	- 280 ECU
Nachzahlung der hinterzogenen Steuern:	- 400 ECU
Strafe:	- 200 ECU
Einkommen nach Steuern:	= 820 ECU

Weiter

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Informing participants that the initial study was about to start

---

Auf der folgenden Seite beginnt die eigentlich Studie.

Klicken Sie auf 'Weiter' wenn sie bereit sind mit der Studie zu starten. Die Studie beginnt mit dem gleichen Aufgabentyp, den Sie bereits geübt haben. Ziel ist es, möglichst viele Slider auf 50 % zu bringen. Für die Aufgabe stehen Ihnen in jeder Runde 20 Sekunden zur Verfügung.

Weiter

Example of an Effort(Slider)-Task

Verbleibende Zeit: **0:20**

Decision phase in the gain condition

Einkommen in Runde 1

Basiseinkommen:	1000 ECU
Einkommen Slider-Task (0 richtig):	+ 0 ECU
Einkommen vor Steuern:	= 1000 ECU
Steuer (20%):	- 200 ECU
Einkommen nach Zahlen aller Steuern (20%):	800 ECU

Nach Steuerabgaben ist ihr Verdienst in dieser Runde 800 ECU.

Die Steuerabgabe in dieser Runde beträgt 200 ECU (**20%** Ihres Einkommens).
Die Wahrscheinlichkeit in dieser Runde geprüft zu werden liegt bei **25%**. Falls Sie Steuern einbehalten und geprüft werden, müssen Sie die einbehaltenen Steuern zurück zahlen plus eine Strafe von **0.5** mal dem einbehaltenen Betrag.
Bitte geben Sie an wie viel Steuern Sie zahlen wollen.

[ ] ECU

Weiter

Decision phase in the loss condition

Einkommen in Runde 1

Basiseinkommen:	1000 ECU
Einkommen Slider-Task (0 richtig):	+ 0 ECU
Einkommen vor Steuern:	= 1000 ECU
Steuer (20%):	- 200 ECU

Vor Steuerabgaben ist ihr Verdienst in dieser Runde 1000 ECU.

Die Steuerabgabe in dieser Runde beträgt 200 ECU (**20%** Ihres Einkommens).
Die Wahrscheinlichkeit in dieser Runde geprüft zu werden liegt bei **25%**. Falls Sie Steuern einbehalten und geprüft werden, müssen Sie die einbehaltenen Steuern zurück zahlen plus eine Strafe von **0.5** mal dem einbehaltenen Betrag.
Bitte geben Sie an wie viel Steuern Sie zahlen wollen.

[ ] ECU

Weiter

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Feedback phase where no audit occurred

Sie wurden <u>nicht</u> geprüft.

Einkommen Runde 1 nach Steuerabgaben:

Basiseinkommen:	**1000 ECU**
Einkommen Slider-Task (0 richtig):	**+ 0 ECU**
Einkommen vor Steuern:	**= 1000 ECU**
Steuern gezahlt (Steuer Satz: 20% = 200 ECU):	**- 0 ECU**
Nettoeinkommen Runde 1:	**= 1000 ECU**

Weiter

Feedback phase in which an audit occurred and underdeclaration was observed

---

Sie wurden geprüft.
'Die Prüfung hat ergeben, dass Sie zu wenig Steuern gezahlt haben.

Einkommen in Runde 1 nach Steuerabgaben:

Basiseinkommen:	**1000 ECU**
Einkommen Slider-Task (5 richtig):	**+ 500 ECU**
Einkommen vor Steuern:	**= 1500 ECU**
Steuern gezahlt (Steuer Satz: 20% = 300 ECU):	**- 0 ECU**
Nachzahlung der hinterzogenen Steuer:	**- 300 ECU**
Strafe:	**- 150 ECU**
Nettoeinkommen Runde 1:	**= 750 ECU**

Weiter

Feedback phase in which an audit occured and taxes paid completly

Sie wurden **geprüft**.
Laut Prüfung haben Sie den kompletten Steuersatz gezahlt

Einkommen in Runde 3 nach Steuerabgaben.

Basis Einkommen:	1000 ECU
Einkommen Slider-Task (6 richtig):	+ 600 ECU
Einkommen vor Steuern:	= 1600 ECU
Steuern gezahlt (Steuer Satz: 40% = 640 ECU):	- 640 ECU
Strafe:	- 0 ECU
Nettoeinkommen Runde 3:	= 960 ECU

Weiter

Information that the last tax decision round ended

Das war die letzte Runde
Bitte klicken Sie auf "weiter" um fortzufahren.

Weiter

Thank you-note and information of thestart of the questionnaire

Vielen Dank, dass Sie alle bisherigen Aufgaben bearbeitet haben!
Im Folgenden werden Ihnen Fragen zur Studie gestellt.

Weiter

Questionnaire items regarding the prospect theory

Bitte denken Sie an den Verlauf der Studie und geben Sie an wie sehr die folgenden Aussagen für Sie zutreffend sind.

	stimme zu			stimme nicht zu	
Das Zahlen von Steuern ist für mich ein finanzieller Verlust.	○	○	○	○	○
Das Zahlen von Steuern ist für mich eine Reduktion meines Einkommens.	○	○	○	○	○
Die Hinterziehung von Steuern ist für mich eine Reduktion des Verlustes.	○	○	○	○	○
Die Hinterziehung von Steuern ist für mich eine Erhöhung des Gewinns.	○	○	○	○	○

Weiter

Goal during the study questionnaire

Mein Ziel beim Zahlen der Steuern war...

	stimme zu			stimme nicht zu	
...ehrlich zu sein.	○	○	○	○	○
...meinen Verlust zu minimieren.	○	○	○	○	○
...meinen Gewinn zu maximieren.	○	○	○	○	○

Weiter

Manipulation Check moral suasion condition

Haben Sie während der Studie über Ihre Moralvorstellungen nachgedacht?

○ Ja

○ Nein

Weiter

Transition and appreciation notice

Vielen Dank, dass Sie alle bisherigen Aufgaben bearbeitet haben!

Auf nachfolgender Seite finden Sie Aussagen, die sich auf Ihre **persönliche Einstellung** beziehen.

Bitte denken Sie nun an das Zahlen von Steuern in der realen Welt.

Weiter

Motivational postures (Braithwaite, n.d.)

Bitte geben Sie an, inwiefern Sie den folgenden Aussagen zustimmen.

	Trifft gar nicht zu	Trifft eher nicht zu	Trifft mehr oder weniger zu	Trifft eher zu	Trifft absolut zu
Es gehört sich, seine Steuern zu bezahlen.	○	○	○	○	○
Steuern zu bezahlen ist eine Verantwortung, die von allen BürgerInnen gerne akzeptiert werden sollte.	○	○	○	○	○
Ich fühle mich moralisch verpflichtet, meine Steuern zu bezahlen.	○	○	○	○	○
Wenn ich meine Steuern bezahle, nützt das letztendlich Allen.	○	○	○	○	○
Steuern zahlen hilft der Regierung sinnvolle Dinge zu tun.	○	○	○	○	○
Alles in allem zahle ich gerne meine Steuern.	○	○	○	○	○
Ich ärgere mich, meine Steuern zahlen zu müssen.	○	○	○	○	○
Ich sehe es als meine Verantwortung, meinen Steueranteil zu bezahlen.	○	○	○	○	○

Weiter

Control items

Waren Sie in einer ruhigen Umgebung während Sie den Fragebogen ausgefüllt haben?

○ Ja
○ Nein

Wurden Sie während der Bearbeitung des Fragebogens durch etwas gestört?

○ Nein
○ Ja, durch [   ]

Weiter

Check if participants understood the weighting for the lottery

Haben Sie verstanden, dass die ECUs zur Gewichtung in der Lotterie beitragen?

- ○ Ja
- ○ Nein

[Weiter]

Demographic questions and control items

Wie alt sind Sie?

[＿＿＿] Jahre

Bitte geben Sie Ihr Geschlecht an:

- ○ Männlich
- ○ Weiblich

Was ist ihr derzeitiger Status? (mehrere Antworten möglich)

- ☐ Selbstständig
- ☐ Angestellte/r
- ☐ Arbeiter/in
- ☐ Nicht erwerbstätig
- ☐ Student/in

In welchem Ausmaß sind Sie beschäftigt?

- ○ Vollzeit
- ○ Teilzeit
- ○ Geringfügig
- ○ Nicht erwerbstätig

Falls Sie angegeben haben zu Studieren, was studieren Sie?

[＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿]

	Keine	Sehr viel
Wie viel Erfahrung haben Sie mit dem Zahlen von Steuern in der realen Welt?	○ ○ ○ ○ ○	

Haben Sie zuvor schon einmal an einer Studie zu Steuern teilgenommen?

○ Ja

○ Nein

Haben Sie sorgfältig alle Informationen, die Ihnen im Laufe des Fragebogens gegeben wurden durchgelesen?	Nein, gar nicht ○ ○ ○ ○ ○ Ja, vollständig
Haben Sie alle Informationen verstanden?	Nein, gar nicht ○ ○ ○ ○ ○ Ja, vollständig
War der Text für Sie gut verständlich?	Nein, gar nicht ○ ○ ○ ○ ○ Ja, vollständig

Weiter

Open question about the aim of the study

Was denken Sie, ist das Ziel dieser Studie?

Weiter

Participation appreciation and silence agreement

Vielen Dank für die Teilnahme an der Studie!

Ziel dieser Studie ist es herauszufinden, wie sich bestimmte Faktoren auf die Steuerehrlichkeit und das Steuerzahlen von Bürger/innen auswirken.

Wichtig: Wir bitten Sie, bis zum Ablauf der gesamten Studie am 15. Juni 2018 Stillschweigen über diese Information und den Ablauf der Studie selbst zu bewahren, um die Ergebnisse der anderen Teilnehmer vor einer Verfälschung zu schützen. Danke!

Klicken Sie auf "Weiter", die Studie ist gleich beendet.

Weiter

Information which round for the lottery was drawn and the value of that round

---

Bei der Ziehung für die Gutscheine, wurde Runde 9 gezogen.

Ihr Einkommen in dieser Runde betrug 2000 ECU.

Weiter

Open field for participants partaking in the lottery and anonymity guarantee

---

Bitte geben Sie Ihre E-Mail-Adresse an, um am Gewinnspiel teilzunehmen.

Ihre Gewinnchancen werden mit Ihren verdienten ECU gewichtet. Je mehr Sie verdient haben, desto höher sind ihre Gewinnchancen. Dazu wird ein separates Datenblatt angelegt, in welchem Ihre E-Mail-Adresse sowie die verdiente ECU-Summe (auf 100 gerundet) gespeichert wird. Wir können Ihre Adresse daher den anderen Daten **nicht** zuordnen. Nach der Verlosung werden wir alle erhobenen E-Mail-Adressen ohne weitere Verwendung löschen.
Selbstverständlich ist die Teilnahme dennoch freiwillig. Sie können das Feld auch leer lassen und auf „weiter" klicken.

E-Mail-Adresse:

Weiter

Last thank you note, email addresses for questions and surveycircle-code

---

Vielen Dank für Ihre Teilnahme!

Die Studie ist nun beendet. Sollten Sie weitere Fragen haben, kontakieren Sie bitte die Forscher: Bsc. Christian Bauer (christian.bauer@univie.ac.at) oder Bsc. Dennis Morzinek (a0747422@unet.univie.ac.at).

Für Nutzer von SurveyCircle:

Der Survey Code lautet: M924-ZLJS-B4FC-H8PX oder klicken Sie alternative auf diesen Link: Weiterleitung

---

6.2 Appendix B.

Moral Suasion 1

Steuersysteme dienen zur Aufrechterhaltung der Gesellschaft. Steuern ermöglichen einen finanziellen Ausgleich sozialer Unterschiede, unterstützen Forschung, Bildung und Lehre, erlauben die Schaffung, den Ausbau und die Aufrechterhaltung von Infrastrukturen und unterstützen Gesundheitssysteme wie Krankenhäuser und Altenpflege. Wenn Sie Ihren Teil zur Aufrechterhaltung beitragen wollen, zahlen Sie den Ihnen vorgegebenen Steuersatz.

Weiter

Moral Suasion 2

Steuersysteme sind essentiell zur Aufrechterhaltung der Gesellschaft. Durch Steuerhinterziehung und -vermeidung entstehen jährlich hohe Kosten für den Staat. Dies erschwert eine Finanzierung der Infrastruktur, erschwert Ausgleiche sozialer Gerechtigkeit, mindert Finanzierung für Bildung, Forschung und Lehre, sowie Sozial- und Gesundheitseinrichtungen. Wenn Sie Ihren Teil zur Aufrechterhaltung beitragen wollen, zahlen Sie den Ihnen vorgegebenen Steuersatz.

Weiter

7 Zusammenfassung

Das Ziel der vorliegenden Studie ist es den Einfluss von moralischen Appellen sowie *framing* - in Bezug auf Gewinn und Verlust - auf Steuerehrlichkeit zu erforschen. Ich nehme an, dass Gewinn Situationen einen positiveren Einfluss auf Steuerehrlichkeit haben als Verlust Situationen. Basierend auf vorausgehender Literatur, sollten moralische Appelle sich ebenfalls positiv auf das Steuerverhalten auswirken. Dafür habe ich ein zwei (Präsentation Moral gegenüber keine solche Präsentation) mal zwei (Gewinn gegenüber Verlust) Experiment online durchgeführt, um den Einfluss auf Steuerverhalten in einem Steuerspiel zu testen. Versuchspersonen sollten Einkommen verdienen und über 12 Runden Steuerentscheidungen treffen. Gewinn- und Verlustsituationen wurden dabei durch Netto und Brutto dargestellt. Zusätzlich wurde der Hälfte der Versuchspersonen ein moralischer Apell gezeigt, jeweils zu Beginn und zur Mitte der Studie. Die Ergebnisse zeigen keine Unterschiede zwischen den vier Bedingungen. Teilnehmer/innen, denen ein moralischer Appell gezeigt wurde, zeigten höhere moralische Aktivierung in einer Umfrage im Anschluss an die Studie. Der Einfluss von Moral auf Steuerverhalten in dieser Studie konnte nicht gezeigt werden. Weitere Studien sind nötig, um den Einfluss von moralischen Appellen und Ethik auf Steuerverhalten genauer zu untersuchen.

Schlagworte: Steuerehrlichkeit, Steuerhinterziehung, Moral, Ethik, Steuermotive, Prospect-Theorie, Gewinn, Verlust