

**MISPERCEPTIONS OF
SOCIAL NORMS ABOUT TAX
COMPLIANCE (2):
A FIELD-EXPERIMENT**

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The Australian National University
Australian Taxation Office

Centre for Tax System Integrity



WORKING PAPER No 8

June 2001

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ISBN 0 642 76807 2

ISSN 1444-8211

WORKING PAPER No 8

June 2001

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Australian National University 2001*

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National Library of Australia
Cataloguing-in-Publication data:

Wenzel, M., 1966-.
Misperceptions of social norms about tax compliance (2): A field-experiment.

Bibliography
ISBN 0 642 76807 2

1. Taxpayer compliance – Australia. 2. Taxation –
Australia – Public opinion. I. Centre for Tax System
Integrity. II. Title. (Series: Working paper (Australian
National University. Centre for Tax System Integrity);
no. 8).

336.2910994

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Series Editor:

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Abstract

Based on insights from an earlier study with a student sample (Wenzel, 2001), the present research evaluated an intervention to increase tax compliance that involved two steps. In step 1, taxpayers were sent a survey about their own personal norms and behaviour as well as others' norms and behaviour concerning taxpaying. In step 2, they were informed about a systematic self-other discrepancy in their perceptions, suggesting that taxpayers wrongly think that most taxpayers hold norms of honesty to a lesser degree (injunctive norm) and act less honestly (descriptive norm) than they themselves do. Feedback about the survey results should encourage taxpayers to correct their perceptions of social norms and thus increase compliance. Deduction claims of four groups of taxpayers (injunctive norm feedback, descriptive norm feedback, survey only, control) were analysed and revealed no treatment effects for claims for work-related expenses, but a significant reduction of claims for other deductions in the injunctive norm feedback condition compared to the control conditions.

Misperceptions of social norms about tax compliance (2): A field-experiment

Michael Wenzel

Introduction

In an earlier paper (Wenzel, 2001), I detailed an approach to tax compliance based on the assumption that taxpayers are influenced by social norms and that their non-compliance might partly reflect their misperceptions of these social norms. In fact, there are empirical indications for both assumptions. First, several studies showed that people's (self-reported) compliance was correlated with their estimate of other people's non-compliance (e.g., Bosco & Mittone, 1997; De Juan, Lasheras, & Mayo, 1994; Kaplan & Reckers, 1985; Song & Yarbrough, 1978; Webley, Robben & Morris, 1988). Second, most people believe that one should be honest in one's tax dealings and state that they indeed are honest, while they believe many people do not think one should be honest and indeed are not honest (Arcraft Research, 1998; see Wenzel, 2001). Cialdini, Kallgren and Reno (1991) refer to perceptions of what most people think one should do as the injunctive norm (or prescriptive norm) and to perceptions of what most people actually do as the descriptive norm.

As indicated, both these norms can be wrongly perceived as far as taxpaying behaviour is concerned; and, in turn, both misperceptions can have negative effects on tax morality. Misperceptions of the *injunctive norms* of taxpaying behaviour might reflect a process of pluralistic ignorance (Miller & McFarland, 1987). Taxpayers might perceive or hear about others violating tax laws and assume they do so because they endorse the norm that some degree of tax non-compliance is acceptable, while they themselves may be non-compliant mainly out of conformity with this norm. However, they disregard the possibility that other non-compliant taxpayers might also have acted out of conformity with the supposed norm, rather than in accordance with their own convictions. Hence, the norm of non-compliance could be a myth that is perpetuated by this process of pluralistic ignorance – a myth that might nonetheless influence taxpayers' behaviour.

Misperceptions of the *descriptive norm* would reflect a process of false consensus (Marks & Miller, 1987; Ross, Greene & House, 1977). Taxpayers might tend towards non-compliance (which pays off for them) but experience vague moral inhibitions. They project their own behavioural tendencies onto other taxpayers and assume that many others feel the same and indeed are non-compliant. As a consequence, their own tendency towards non-compliance appears more normal and normative, so that they can follow it without risks to their own self-esteem and social acceptance.

These considerations suggest a possible intervention to increase compliance, namely through correcting these misperceptions. In a first step, taxpayers could be asked about their own beliefs and taxpaying behaviour as well as their perceptions of the beliefs and behaviour of most other people. The results should show a discrepancy between average *personal* beliefs and behaviour and the *perceived* beliefs and behaviour of the average person. In a second step, the respondents would receive feedback on the results, which should make them reflect on the paradox and correct their perceptions of the social norm. A questionnaire study with students as participants yielded empirical support for this approach (Wenzel, 2001). Compared to an irrelevant feedback condition, feedback on the injunctive norm discrepancy (between average personal views and views about the average or collective) led to a significant change in the perceived social norm of tax compliance and, mediated by this change, to more self-reported tax compliance in two hypothetical scenarios.

Study

The present research tested the intervention in a real-life context. With the support of the Australian Taxation Office (Tax Office), random samples of taxpayers were sent a survey about their own views and behaviour and the suspected views and behaviour of others, in particular concerning honesty and correctness in deduction claims. A few weeks later, two groups of these taxpayers received feedback on the findings, namely, about the discrepancy in injunctive and descriptive norms, respectively. A third group did not receive any feedback (survey only), while a fourth group neither took part in the survey nor received any feedback (control). A few weeks after the lodgment deadline, tax return details were accessed by the Tax Office and deduction claims were compared between the four groups. While the amount of deductions claimed is not by itself an indicator of tax compliance, differences between the

four groups can be attributed to the impact of the experimental treatments on tax compliance (as the four groups should not differ from each other in any other respect due to the randomisation procedure).

Concerning the survey results, it was predicted that (hypothesis 1) respondents would endorse fairness and honesty in paying taxes to a greater degree than they think others do (injunctive norm) and report being more honest and compliant when it comes to paying taxes than they think others are (descriptive norm). The intervention involved feedback about misperceptions of either injunctive norms or descriptive norms. Schroeder and Prentice (1998) contend that the injunctive norm is the more important norm in the context of their very similar intervention to reduce alcohol consumption at universities; however, they argue only from a pluralistic ignorance perspective. As suggested earlier, there are theoretical reasons to expect that either form of feedback could effectively increase compliance and reduce deduction claims (even while counteracting different processes, namely, pluralistic ignorance versus false consensus). Hence, we predicted that (hypothesis 2) the injunctive and descriptive norm feedback would both increase tax compliance and thus reduce deduction claims.

Taxation is a very sensitive issue in Australia during the present climate of tax reform. Because we did not want to jeopardise the research as a whole, the survey was kept absolutely anonymous and no manipulation checks were administered. Identification codes could have made respondents suspicious that the Tax Office could check on them; likewise, manipulation checks (in terms of a further reaction to the feedback letters) could have revealed the true purpose of the study. Hence any effects of the intervention would have to be interpreted on theoretical grounds and based on the empirical evidence from the previous questionnaire study (Wenzel, 2001). Furthermore, although it was emphasised that the survey study was absolutely anonymous, respondents could still be suspicious; for instance about the fact that they specifically, out of the pool of all taxpayers, were sent the survey. If respondents felt that the Tax Office targeted them specifically, they might become more careful in their tax returns; that is, having been sent the survey alone could have increased their compliance. Hence, greater compliance in the feedback conditions than in the 'survey only' (no feedback) condition would constitute empirical support for our theoretical reasoning, while differences between the two control conditions would indicate a deterrence effect of the personalised letter/survey alone.

The study was commenced six weeks after the beginning of the lodgment period (July 1) and a sample of those taxpayers was drawn who had not yet lodged their tax return. The timing of the study ensured that the treatment would occur a relatively short time before taxpayers were likely to lodge their return. Thus the message should be more salient, compared to the alternative of sending the survey before the beginning of the lodgment period, as many taxpayers lodge their returns later in the lodgment period. However, there was the risk that some taxpayers would lodge their return after the survey but before they received the treatment (i.e., feedback on the findings).

Method

Participants and design

One thousand, nine hundred and ninety-nine Australian taxpayers were randomly selected for the study, with the following restrictions: they were individual clients, were not registered with a tax agent (i.e., they were 'self-preparers'), had lodged their 1999 tax return with a salary/wage income greater than 0, had no audit activity in 1998 or 1999 (so that they would not feel 'targeted' or harassed), had not yet lodged their 2000 tax return and had lodged their previous tax return after September 15. The latter criterion was used to increase the likelihood that, although the study took place in the middle of the lodgment period, respondents would not have lodged their 2000 tax return before they received the experimental treatment. Experience shows that taxpayers habitually lodge at certain times of the lodgment period; so previous lodgment time should be a good indicator for their current behaviour. There were 973 male and 1026 female participants, aged between 16 and 69 years ($M = 35$).

The participants were randomly allocated to the four conditions of the experimental design: injunctive norm feedback, descriptive norm feedback, survey only and control condition. The control group did not receive any letter or information related to the study. Their data, anonymous and aggregated, served as the main comparison point for the study. The survey only group was asked to participate in the survey but did not receive any feedback about the results before completion of the study. In contrast, the two treatment groups were asked to

participate in the survey and received feedback about the findings concerning injunctive and descriptive norms, respectively.

At the time of the data extraction by the Tax Office (one month after the lodgment deadline for self-preparers), 486 cases had not yet lodged. Although only taxpayers not registered with tax agents were originally selected, a number of taxpayers thus seemed to have turned to tax agents in the year of the study (or did not lodge for other reasons). As tax agent cases, they would not be required to lodge their returns by the normal deadline (October 31) but could lodge up to nine months later. In principle, taxpayers who lodged through a tax agent were maintained in the sample if they had lodged before the date of data extraction. However, those who had not lodged by the end of November were not followed up. The long time difference between the intervention and lodgment would have made a treatment effect for these cases very unlikely. Cases of non-lodgment were equally distributed over the four conditions of the design, $\chi^2(3) = 3.81$, ns. Thus there remained 1513 cases to be analysed.

Survey

In the third week of August, the Tax Office and the research centre asked participants, in a joint letter, to take part in a short survey on tax issues, assuring them full anonymity and confidentiality of the study. Participants were asked to fill in the attached questionnaire and send it back to the research centre where responses would be analysed. It was emphasised that the Tax Office would not have access to the data and would be provided with only summary statistics. In the injunctive and descriptive norm conditions, respondents were promised information about the results.

The questionnaire contained two parts. The first part (entitled ‘What do YOU think and do?’) asked participants about their own normative standards and self-reported behaviour with regard to paying tax. Six questions addressed *injunctive norms* of how honest one should be in one’s tax matters (e.g., ‘Do you think one should be absolutely honest in one’s tax returns?’; $\alpha = .76$). All survey items were on a scale of 1 (not at all) to 7 (very much). Three of these questions specifically addressed the issue of honesty in deduction claims, and one of them specifically addressed honesty in claims for work-related expenses (e.g., ‘Do you think there is a moral obligation to be truthful in one’s claims for work-related expenses in the tax

return?'). Four further questions addressed *descriptive norms* of how honest one was in one's tax matters (e.g., 'Are you honest in your tax returns?'; $\alpha = .83$). Again, two items more specifically addressed honesty in claims for deductions and work-related expenses (e.g., 'Are you truthful in your claims for work-related expenses in your tax returns?').

The second part of the questionnaire (entitled 'What do you think MOST PEOPLE think and do?') asked participants about their perceptions of other people's normative standards and taxpaying behaviour. The same six questions as before, but now phrased for other people, were used for others' *injunctive norms* of how honest one should be in one's tax matters (e.g., 'Do most people think one should be absolutely honest in one's tax returns?'; $\alpha = .88$). Likewise, the same four questions, now phrased for other people, addressed *descriptive norms* of how honest others were in their tax matters (e.g., 'Are most people honest in their tax returns?'; $\alpha = .91$).

Feedback

About three weeks after the survey, the two treatment groups were sent a letter containing feedback about the findings. They were told that, in the survey:

... participants were asked what they themselves would think and do with regard to tax. Averaging over all participants, we have received a fairly good idea of what most people actually think and do. On the other hand, participants were asked what they thought most people would think and do. We can now compare these two perspectives, that is, what people actually think and do and what everybody thinks most people would think and do.

In the injunctive norm condition, the letter explained the discrepancy between average normative views and perceived norms of the average person (implying a misperception of social injunctive norms):

On average, respondents held the strong personal view that one should be honest in one's tax matters, should willingly fulfil one's civic duty to pay taxes and should not regard tax cheating as a minor offence or a game. In contrast, respondents thought that most people would hold these views to a lesser degree. That is, they thought most people would think honesty, sense of duty and disapproval of cheating was less important when it comes to paying one's taxes. Hence, these results reveal an interesting paradox. The average of all the personal views that we received sums up

what most people *actually think*, and this contrasts sharply with what they *think most people think*. Most people actually agree that honesty, responsibility and truthfulness are important when paying our taxes.

This finding was further illustrated with a bar chart that showed the pattern of means for the average personal view versus the perceived average view for a selected question. The letter finally concluded:

These results indicate that we tend to think most people accept tax cheating and exaggerations in tax deductions. However, the truth is that most people think we should be honest with our tax statements and claim only those deductions that are allowable.

In the descriptive norm condition, the feedback focused on the discrepancy between average taxpaying behaviour and perceived taxpaying behaviour of the average person (implying a misperception of social descriptive norms). Again, a graph was presented that depicted the results for one of the items and a conclusion was drawn:

On average, respondents clearly indicated that they were very honest in their tax returns and rarely cheated. In contrast, respondents thought that most people were less honest and cheated more often in their tax returns. Hence, these results reveal an interesting paradox. The average of all the personal views that we received sums up what most people *actually do*, and this contrasts sharply with what they *think most people do*. Most people claim to be honest and truthful in their tax returns. Because of the anonymity of the survey, respondents had no reason to conceal the truth. [...]

These results indicate that we tend to think most people falsely overstate tax deductions. However, the truth is that most people say they are honest in their tax statements and claim only those deductions that are allowable.

Tax data

A month after the deadline for lodgment of tax returns from self-preparers, the Tax Office accessed their taxpayer records and provided the researchers with de-identified anonymous data from the participants' current and previous tax returns. The main dependent variable was the amount of deductions claimed. Because the survey and the feedback letters explicitly mentioned work-related expenses as a category of deductions, deductions claimed for *work-related expenses* (WRE) were added up across the five relevant labels (i.e., work-related car expenses, work-related travel expenses, work-related expenses for uniforms and so on). As a

measure for *Other Deductions*, claims for the other two major labels were added up, namely interest/dividend deductions and gifts or donations. Furthermore, the previous year's WRE and Other Deductions were used as covariates, as were *Previous Income* in terms of wage/salary income reported in the previous tax return, *Current Income* as reported in the current tax return, *Age*, *Sex* and *Client Type* (self-preparer vs. tax agent case).

Results

Self-other discrepancies

Out of 1500 respondents in the injunctive norm, descriptive norm and survey only conditions, 222 (or 15%) returned their survey within three weeks and their data were included in the analysis used for the feedback letters. The cut-off of three weeks was necessary for the design of the study, so as to minimise the risk of taxpayers lodging their returns before they received the treatment. Given the time constraints, the response rate was low, but the survey results were not the primary interest of the study. Furthermore, the feedback letters did not reveal the response rate, and participants therefore could not discount the results on that basis. The feedback was based on the actual data obtained from the 222 people who returned their survey.

An analysis of variance with the factor Feedback (injunctive/descriptive norm vs. survey only) and the two within-subjects factors Self-Other (you vs. most people) and Norm Aspect (injunctive vs. descriptive) yielded three significant effects. A main effect of Norm Aspect, $F(1, 203) = 35.41$, $p < .001$, reflected higher ratings for descriptive norms than injunctive norms ($M_s = 5.43$ vs. 5.20). However, because the measures for injunctive and descriptive norms are not comparable, we should ignore this effect. More importantly, there was a main effect of Self-Other, $F(1, 203) = 633.62$, $p < .001$, that clearly confirmed the expected discrepancy: respondents' own beliefs and self-reported behaviour reflected more honesty and integrity than their perceptions of the beliefs and behaviour of most other people ($M_s = 6.48$ vs. 4.14). This effect was further moderated by an interaction effect of Norm Aspect and Self-Other, $F(1, 203) = 7.35$, $p = .007$. The self-other discrepancy was more pronounced for descriptive than injunctive norms (M_s for self-other differences: 2.44 vs. 2.23). Nonetheless, the self-other discrepancy was clearly established for both the injunctive norm, $F(1, 205) =$

480.99, $p < .001$, $M_s = 6.31$ vs. 4.11, and the descriptive norm, $F(1, 204) = 587.02$, $p < .001$, $M_s = 6.65$ vs. 4.21. These results were thus the basis for the two feedback letters.

A further 79 questionnaires were returned after the three-week deadline that was set for the formulation of the feedback letters. It may be noted that these data revealed basically the same pattern of results as the sample reported here and in the feedback letters. Importantly, there was a main effect of Self-Other, $F(1, 69) = 270.52$, $p < .001$; respondents' own beliefs and behaviour reflected more tax honesty than their perceptions of the beliefs and behaviour of most others ($M_s = 6.64$ vs. 4.24). The interaction effect of Norm Aspect and Self-Other was this time only marginally significant, $F(1, 69) = 2.91$, $p = .093$, but again the self-other discrepancy was slightly more pronounced for descriptive than injunctive norms (M_s for self-other differences: 2.52 vs. 2.29). Moreover, there was a significant interaction effect of Feedback and Self-Other, $F(1, 69) = 4.39$, $p = .040$, which will be inspected more closely in the next section.

Impact of the intervention

Of the 1513 taxpayers who had lodged their 2000 tax return, 1013 taxpayers claimed WRE on their 1999 tax return, while 665 taxpayers claimed Other Deductions. Only these subsets could have been receptive to the experimental treatment, and therefore statistical analyses for WRE will focus on the former and those for Other Deductions will focus on the latter subset.¹ Cases of WRE claims and Other Deduction claims for 1999 were equally distributed over the four conditions of the design, $\chi^2(3) = 2.20$, ns and $\chi^2(3) = 3.17$, ns, respectively.

To reduce the extreme skewness and kurtosis in the distributions of deduction and income variables, the deduction variables were logarithmically transformed and the income variables were subjected to square-root transformations. After transformations, the distributions were satisfactory for variables of income and Other Deductions; for WRE the distributions, although considerably improved, still revealed somewhat excessive kurtosis for the 1999 data and skewness for the 2000 data, but could not be further improved. Only one further case was

¹ In hindsight, it would have been favourable to include as two further sampling criteria whether taxpayers had claimed WRE or Other Deductions in the previous tax return and to stratify the sample according to these two criteria. The relative high number of taxpayers who did not claim WRE or Other Deductions meant a loss in experimental power.

excluded from the analysis due to an extreme value for Previous Income (\$192,464); extreme values were defined as more than four standard deviations from the mean.

It was predicted that feedback about self-other discrepancies in injunctive norms and descriptive norms would increase tax compliance and this would be reflected in lower deduction claims in the feedback conditions compared to the survey only and control groups (hypothesis 2). Deduction claims were subjected to regression analyses using the respective previous deduction claim, Age, Sex, Client Type, Previous Income and Current Income as well as three dummy variables as predictors; the dummy variables tested the injunctive norm feedback, descriptive norm feedback and survey only group against the control group, respectively. The regression procedure was used because outlier statistics available with this procedure provided information about cases that deviated from the regression model and could bias the results. Cases deviating more than four standard deviations from their predicted value were defined as outliers.

For WRE, a first analysis revealed that two cases deviated from the predicted model more than four standard deviations and were thus excluded from analysis, although the exclusion did not change the results substantially (see Table 1). The regression yielded significant effects for previous WRE claims ($\beta = .48$), Current Income ($\beta = .67$), Previous Income ($\beta = -.45$) and Client Type ($\beta = .10$). However, none of the dummy variables had a significant effect, $t_s < 1$; hence the groups did not differ from each other and the intervention had no impact. Not surprisingly, WRE claims were greater, the more taxpayers claimed in the previous year and the higher their current income; and clients registered with a tax agent claimed more WRE than self-preparers. The negative impact of Previous Income was unexpected; however, this appeared to be due to a suppressor effect, as there was a strong correlation between Current and Previous Income ($r = .75$) and Previous Income was actually positively correlated with WRE claims ($r = .22$).

Table 1: Regression analyses for claims of WRE and Other Deductions

	Work-Related Expenses		Other Deductions	
	β	t	β	t
Previous Claims	.48 ^{***}	19.06	.53 ^{***}	16.95
Current Income	.67 ^{***}	18.59	.38 ^{***}	8.16
Previous Income	-.45 ^{***}	-11.42	-.19 ^{***}	-3.91
Client Type	.10 ^{***}	4.07	-.08 ^{**}	-2.76
Age	-.00	-.09	.10 ^{**}	3.19
Sex	.01	.28	.05	-1.63
Inj. Norm vs. Control	-.00	-.10	-.08 [*]	-2.27
Des. Norm vs. Control	-.03	-.94	-.04	-.99
Survey only vs. Control	-.01	-.41	-.02	-.58
	F(9, 996) =	89.09	F(9, 649) =	53.53
	R ² =	.45	R ² =	.43

Note. ^{***} $p < .001$, ^{**} $p < .01$, ^{*} $p < .05$

For Other Deductions, the regression model fitted all cases sufficiently well and there were no outlier cases. The analysis (see Table 1) yielded significant effects for previous Other Deduction claims ($\beta = .53$), Current Income ($\beta = .38$), Previous Income ($\beta = -.19$), Client Type ($\beta = -.08$) and Age ($\beta = .10$). Furthermore, the dummy variable testing injunctive norm feedback against the control group had a significant effect ($\beta = -.08$), while the effects for the other two dummy variables were not significant, $t_s < 1$. Thus there was a significant treatment effect that will be explored further in the next paragraph. Concerning the other significant regression effects, Other Deductions claims were again greater, the more taxpayers claimed in the previous year and the higher their current income. The negative impact of Previous Income again appeared to be due to a suppressor effect, as Current and Previous Income were highly correlated ($r = .76$) and Previous Income was actually positively correlated with Other Deductions claims ($r = .24$). In contrast to the findings for WRE claims, clients registered with a tax agent claimed less Other Deductions than self-preparers. Furthermore, older taxpayers claimed more Other Deductions than younger taxpayers.

The treatment effects were investigated further by analysis of covariance being exactly equivalent to the regression procedure; previous deduction claims, Age, Sex, Client Type, Previous Income and Current Income were used as covariates and Group (injunctive norm feedback, descriptive norm feedback, survey only, control) was treated as independent variable. Beyond the regression findings, the covariance analysis informed us about the pattern of means for the four groups (see Figure 1) and allowed for relevant specific contrasts. First, it was tested whether the two treatment conditions differed from the two control conditions (i.e., survey only and control). The respective contrast effect $(-1, -1, 1, 1)$ was marginally significant, $F(1, 649) = 3.57, p = .059$; deduction claims were lower in the treatment conditions than in the control conditions ($M_s = 1.35$ vs. 1.45). Second, we checked for differences between the two treatment conditions and between the two control conditions. The two contrast effects $(-1, 1, 0, 0)$ and $(0, 0, -1, 1)$ were not significant, $F_s < 1.67$; neither the two treatment conditions nor the two control conditions differed in terms of Other Deductions claimed. Third, further contrast analyses showed that the descriptive norm group differed neither from the survey only group nor the absolute control group, $F_s < 1$, whereas the injunctive norm group differed marginally significantly from the survey only group, $F(1, 649) = 2.85, p = .092$ ($M_s = 1.29$ vs. 1.43) and it differed significantly from the absolute control group, $F(1, 649) = 5.16, p = .023$ ($M_s = 1.29$ vs. 1.48). (The latter effect replicated the regression finding.)

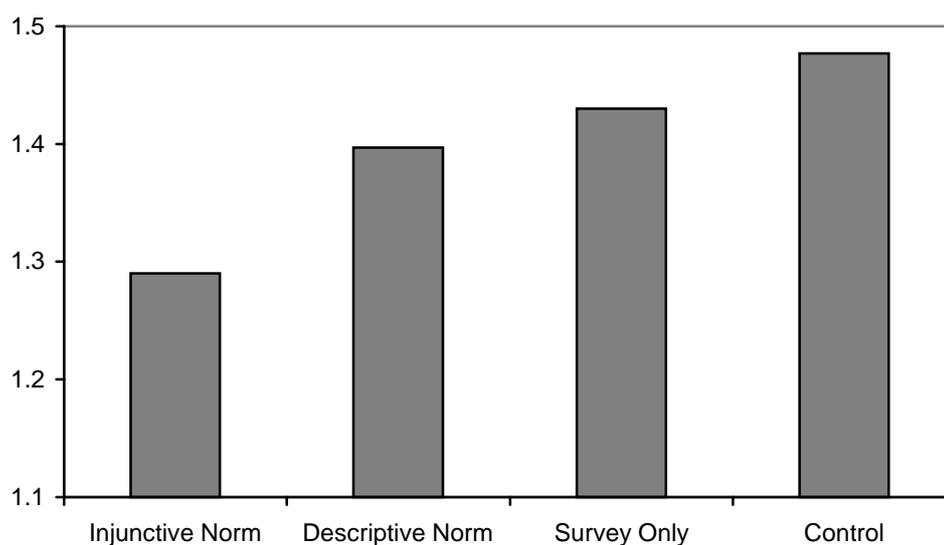


Figure 1: Marginal means of the Other Deductions measure (logarithmically transformed) for the four experimental conditions

While there was thus some support for the effectiveness of the intervention, the study was not designed to yield any direct evidence for the mediating mechanism. However, as reported earlier, a number of respondents returned their survey after the deadline set for the formulation of the feedback findings. More importantly, 29 respondents even returned their questionnaire after they had (presumably) received the feedback letter. Hence we can investigate whether the feedback had any impact on their views expressed in the survey. An analysis of variance with the factors Feedback, Self-Other and Norm Aspect (the latter two realised within subjects) yielded a significant effect of Self-Other, $F(1, 27) = 146.91$, $p < .001$; however, this effect was significantly moderated by an interaction between Self-Other and Feedback, $F(1, 27) = 6.64$, $p < .044$. Those respondents who had received the feedback displayed a significantly smaller self-other discrepancy than those who had not received any feedback (M s for self-other differences: 1.80 vs. 2.77). This effect was mainly due to the impact of the feedback on perceived *social* norms; that is, after having received the feedback, respondents thought most other people held norms of tax honesty to a greater degree (M s = 4.70 vs. 3.90). However, the respective t-test failed to be significant, $t(27) = 1.54$, ns.²

Discussion

The present study empirically established that taxpayers perceived other taxpayers to hold the belief that one should be honest in one's tax return and tax deduction claims (injunctive norm) to a lesser degree than they themselves did. Likewise, taxpayers thought other taxpayers were less honest in their tax returns and tax deduction claims (descriptive norm) than they themselves were. Thus taxpayers seemed to misperceive social injunctive and descriptive norms with regard to taxpaying. These misperceptions could have detrimental effects on their own taxpaying behaviour. First, taxpayers might feel some pressure to conform to the injunctive norm and thus might be non-compliant despite their own personal convictions (see Miller & Prentice, 1994; Prentice & Miller, 1993). Second, they might feel some alleviation of moral inhibitions due to the descriptive norm (of others being even more non-compliant) and thus might be non-compliant in line with their personal conviction (see Marks, Graham &

² The interaction effect between Self-Other and Feedback reported in the previous section was thus mainly due to those respondents who returned their questionnaire after they had received the feedback. The interaction was not significant for respondents who returned the survey after the deadline but before they could have received, and responded to, the feedback letter, $F(1, 40) = 1.34$, ns.

Hansen, 1992). The main goal of the study was to investigate whether feedback to taxpayers about the self-other discrepancy and our interpretation in terms of misperceptions of social norms would encourage taxpayers to adjust their perceptions of social norms and, as a consequence, better comply with the tax laws.

The present study was not designed to provide evidence for mediating processes in terms of adjustments of perceived social norms (see Wenzel, 2001). Process variables and manipulation checks were not included in the study because of their potentially detrimental effects (i.e., revelation of the research question and suspicions about anonymity). However, in line with the theoretical argument, respondents who returned their survey after they had received the feedback treatment displayed a significantly reduced self-other discrepancy, mainly because they adjusted their perceptions of social norms (i.e., perceived views of others). This piece of evidence is consistent with the theoretical argument, however, it should be viewed with caution, as the number of cases is very small. Furthermore, we do not know why these respondents still returned their survey at all and whether the apparent effect of the feedback on their responses also underlay the observed effects on deduction claims.

The study distinguished between WRE deductions, which were explicitly mentioned in the survey and feedback letters, and Other Deductions (of interest and dividends as well as gifts and donations). There was no effect of the intervention with regard to WRE. However, claims of Other Deductions were significantly affected by the manipulation. In both treatment conditions together (injunctive and descriptive norm feedback), taxpayers claimed fewer Other Deductions than in the two control conditions, where taxpayers received the survey but no feedback, or neither the survey nor any feedback, respectively. However, this effect was only marginally significant and indeed was mainly due to the injunctive norm feedback condition in which deduction claims were significantly lower than in the control condition and marginally lower than in the survey only condition. The descriptive norm feedback did not significantly reduce the amount of deductions claimed compared to the two control groups. So only the injunctive norm feedback seemed to effectively reduce claims of Other Deductions, consistent with Cialdini et al.'s (1991) view that injunctive norms are more potent than descriptive norms.

Claims for Other Deductions did not differ significantly between the two control conditions; the survey alone did not affect taxpayers' deduction claims. There seemed to be no deterrence effect of having been selected as a participant in the survey, possibly due to the complete anonymity of the study. Importantly, the effects of the feedback treatment thus cannot be simply explained in terms of deterrence through feeling targeted by the Tax Office. Moreover, the two treatment conditions did not differ from each other in terms of Other Deductions claimed and, as discussed before, both treatment groups together differed from the two control groups (this effect being close to significant). One possible interpretation of these data could be that the injunctive norm feedback was effective, while the descriptive norm feedback was partly effective (with its mean lying in between injunctive norm group and control groups) due to the possible implications of descriptive norms for injunctive norms. From information about others' behaviour (descriptive norm feedback), people might infer what others think one should do (injunctive norm); thus descriptive norm feedback might have, mediated by such inferences, some indirect effect. However, explicit feedback about others' injunctive norms should be, and turned out to be, more influential.

Finally, there remains the question of why the treatment effectively decreased deduction claims (and thus presumably increased compliance) for Other Deductions but not for WRE. One reason could be that taxpayers were already closer to being fully compliant in their claims for WRE than Other Deductions and, consequently, there was less room for the intervention to increase compliance in the former case. This reasoning is pure speculation, as we do not have any data on the estimated baseline level of compliance in the case of WRE deductions relative to Other Deductions. A second explanation could be that there is an equal degree of non-compliance in the two domains, but non-compliance could be based on different motivations. Non-compliance in deductions of WRE could be less based on conformity with perceived social norms than non-compliance in Other Deduction claims, and thus a correction of the misperceptions would have no effect in the former case. Again, however, there is neither data nor a good theoretical argument available that could support this explanation. More research is necessary to further illuminate the findings.

Some further limitations of the present research concern the survey findings, as there are at least two possible objections against the interpretation of the results in terms of misperceived social norms. One concerns the problem of self-selection: as participation in the survey was

voluntary, only those taxpayers who had positive tax attitudes might have been willing to return their questionnaire. Thus the self-other discrepancy might have been a valid perception (rather than a misperception) of the discrepancy between those taxpayers who responded and those who did not. The other problem is one of self-presentation: respondents might not readily disclose their own asocial and unlawful views, in particular to a research centre that cooperates with the Tax Office, from which they might expect sanctions for improper answers. Respondents might have distorted their own beliefs and behaviour, while they had no reason to be dishonest about the suspected beliefs and behaviour of others. Hence, we cannot be absolutely certain about the interpretation of the survey findings as misperceptions of social norms.

Nonetheless, the study yielded some promising support for the theoretical approach and its assumptions that taxpayers are influenced by the perceived social norms about tax compliance and that misperceptions of these social norms (as rather prescribing or tolerating tax non-compliance) could have detrimental effects on their taxpaying behaviour. With regard to Other Deductions, feedback about these possible misperceptions significantly reduced deduction claims. The findings thus not only confirm the theoretical assumptions but also point to the practical significance of the approach. Unfortunately, the actual monetary meaning of the findings is concealed by the transformations of the monetary variables that were necessary to improve their distributional features. To give an approximate value, the covariance analysis for Other Deductions was run without monetary variables being transformed. The analysis yielded similar results as before; in particular the injunctive norm feedback condition differed significantly from the control group. All other things being equal (i.e., taking into account the effect of the covariates), taxpayers claimed on average \$151 of Other Deductions in the injunctive norm condition and \$286 in the control group. The mean reduction in Other Deductions claims due to the treatment would be about \$135. This apparently modest figure gains practical significance if we imagine that the approach could be applied on a larger scale, given that nearly 2 million Australian individual taxpayers claim interest and dividend deductions and more than 3 million claim deductions for gifts and donations. For instance, projected onto 100 000 taxpayers, the intervention could reduce deduction claims (and increase taxable income) by \$13.5 million. Simply assuming an average tax rate of 16%, this would mean a revenue gain of more than \$2 million.

Moreover, the theoretical insights from the present experiment and the earlier questionnaire study (Wenzel, 2001) could inform other interventions and programs. Their main objective would be to persuade taxpayers of widely shared norms of taxpaying morality and responsibility. Certainly, cases of salient public figures, wealthy individuals and powerful companies who manage to dodge their tax responsibilities can quickly undermine the impact of the public's tax morality. It is therefore even more important that the widely shared condemnation of these acts is made public. Otherwise, even misperceptions of social norms, being easily affected by salient public cases, can have a detrimental impact on taxpayers' own behaviour. Importantly, one's own behaviour could perpetuate and even verify these misperceptions, and in this process seriously undermine taxpaying ethics.

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Acknowledgements

I would like to thank the Australian Taxation Office for the cooperation on this research; in particular, Jennie Granger and Tony Goddard for their support, Jacqueline Giddy for her tremendous help with the implementation of the study, as well as Craig Kentish and Rob Williams for their help with the mailout and data extraction.

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