



Guilt aversion revisited: An experimental test of a new model[☆]



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ABSTRACT

In this paper, we experimentally investigate the guilt aversion hypothesis by using a trust game with pre-play communication. For this purpose, we first develop a new version of guilt aversion called personal guilt aversion. It is shown that the new version is consistent with extant experimental results in the literature and thus cannot be rejected by any of them. Given this observation, we then design an experiment that can test the new as well as original versions of the guilt aversion hypothesis. In contrast to the prediction of both versions of the hypothesis, we find that the correlation between elicited beliefs and (trustful or trustworthy) behavior is almost zero even in an environment with pre-play communication. Thus, our experimental result provides a case against the guilt aversion hypothesis.

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1. Introduction

Trust has an important role in most social activities, and what is crucial for the degree to which one trusts others is how trustworthy others are. For example, we want to deposit our money in a bank account only when we believe that we can withdraw the money at any time. More generally, a requirement for workable markets is that “people can be trusted to live up to their promises” (McMillan, 2002). Given the general importance of trust, the conditions for and implications of trust and trustworthiness have been investigated both empirically and theoretically.

Once paying attention to this problem, we immediately encounter an important question: Is it the case that the more others believe that one believes that they take trustworthy actions, the more often they will adopt trustworthy behavior?

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According to the hypothesis of *guilt aversion*, the answer is affirmative. This hypothesis claims that people experience some disutility (*guilt*) when they betray another person's expectation. Thus, the higher others' beliefs about one's belief (about others' trustfulness) are, the more likely one's trust is rewarded by others' trustworthiness. Charness and Dufwenberg (2006) and Reuben et al. (2009) conduct experiments suggesting that aversion to guilt actually affects subjects' behavior in the laboratory. However, others (Vanberg, 2008; Ellingsen et al., 2010) question this claim. They experimentally show that the results of Charness and Dufwenberg (2006, 2010a) may be by-products of the so-called *false consensus effect*.²

However, the experimental comparisons between the two hypotheses have never been made in an environment where subjects have an opportunity for pre-play communication. As we clarify below, this is a serious omission because whether an opportunity for communication exists or not is likely to be one of the most important determinants of the feeling of guilt.

To make this point clear, we consider the following new version of the guilt aversion hypothesis called *personal guilt aversion*. According to it, people feel guilty when they betray another person's expectation *with that expectation having been raised by their very own actions*, typically by their promises.³ Unlike the original version, it is shown that personal guilt aversion is consistent with all extant experimental results in the literature introduced above. Note that these results have hitherto not been explained by any single model, including the original guilt aversion hypothesis.⁴ In this sense, it is justifiable to adopt personal guilt aversion as a model of guilt aversion.

In light of personal guilt aversion, whether an opportunity for communication exists or not is a key determinant of the feeling of guilt. Particularly, the existence of an opportunity for communication (or, more generally, an action that can raise another person's expectation) is a prerequisite for the feeling of guilt. However, in the literature, the guilt aversion hypothesis and alternative hypotheses have been experimentally compared only under settings where subjects have *no* opportunity for such communication. As a result, the validity of personal guilt aversion *cannot* be tested by any extant experiment. Motivated by this observation, we design and conduct a new experiment that can test the personal as well as original versions of the guilt aversion hypothesis.

Specifically, we experimentally investigate a trust game with hidden action (Berg et al., 1995; Charness and Dufwenberg, 2006). In one of two treatments, this game is associated with the opportunity for pre-play communication while no such opportunity is provided in the other treatment. Additionally, as in Ellingsen et al. (2010) and Reuben et al. (2009), we let second movers (trustees) be informed about the beliefs of paired first movers (trustors), while the beliefs are elicited in such a way that it is incentive-compatible for first movers to report true beliefs.⁵ Note that for the above game, both the original and personal versions of the guilt aversion hypothesis imply that in the with-communication treatment, the more the second mover believes that the first mover believes that the second mover takes the trustworthy action, the more often the second mover actually chooses the trustworthy action.

In contrast to this prediction, we find the following evidence. The correlation between the elicited beliefs of first movers, which are the same as the second-order beliefs of second movers by the above design, and (trustful or trustworthy) behavior is almost zero and even slightly negative in the with- and without-communication treatments, respectively. In this sense, our results suggest that the role of guilt aversion may be smaller than what was previously believed. In this sense, we provide an additional case for the counterargument advanced by Vanberg (2008) and Ellingsen et al. (2010) to the guilt aversion hypothesis.⁶

The contributions of this paper are summarized as follows. First, we develop a concept of personal guilt aversion, which can consistently explain extant experimental results. Second, our experiment is the first that can distinguish among the original and personal guilt aversion hypotheses and alternative hypotheses in a setting with communication, and hence the first that can test personal guilt aversion. Consequently, we obtain a case against this hypothesis.

The rest of the paper is organized as follows. In Section 2, the trust game with hidden action and pre-play communication and experimental results on it are reviewed. Then the concept of personal guilt aversion is presented and applied to the trust game. We show that personal guilt aversion is consistent with all existing experimental results in the literature and cannot be rejected by any of them. Given this finding, in Section 3, we introduce our experimental design that can test the personal as well as the original versions. Then the experimental hypotheses, procedures, and results are presented. Finally, we provide concluding remarks in Section 4.

2. Trust game and (personal) guilt aversion

Charness and Dufwenberg (2006) conduct an experiment on a trust game with pre-play communication and hidden action, which is depicted in Fig. 1.

² *Aversion to lying*, rather than guilt arising as a result of lying, may also be an alternative explanation. For the definitions of these concepts, see Section 2.

³ For a psychological justification for the concept of personal guilt aversion, see Section 2.

⁴ Although not explained in this paper, we can also demonstrate that in a general model, (sequential) equilibrium under personal guilt aversion is a refinement in a sense of that under guilt in the original sense (Battigali and Dufwenberg, 2007, 2009). The details of this result are available upon request.

⁵ For a recent survey on belief elicitation, see Schotter and Trevino (2013). Especially they extensively review second-order belief elicitation using psychological games (Section 4.1).

⁶ On the other hand, our experiment may not provide a strong case for alternative hypotheses such as those provided by the false consensus effect or aversion to lying. Nonetheless, we can at least state that the alternative hypotheses are consistent with our experimental results while the guilt aversion hypothesis is not.

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