

Gender Pairings and Accountability Effects: A Comment

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Abstract

In a recent paper, Brandts & Garofalo [Brandts, J., & Garofalo, O. (2011). Gender pairings and accountability effects. *Journal of Economic Behavior & Organization*, forthcoming] found differential effects of accountability on men and women when accountable in front of an all male or all female audience. I supplement their results by statistically comparing the effects of accountability on men and women to a baseline condition in which accountability is absent, thus allowing me to determine the mechanisms underlying their findings. I furthermore provide some evidence on the activation of psychological stress in men and women. Implications of the new findings for possible explanations of the results are discussed.

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1. Motivation

Accountability—the implicit or explicit expectation of a decision maker that she may have to justify her choice in front of somebody else (Lerner & Tetlock, 1999)—can significantly influence decision making processes. Brandts & Garofalo (2011) explore gender effects on the working of accountability. In particular, they investigate how the gender composition of the audience interacts with the gender of the decision maker. They find that male participants take better decisions in choices between simple and compound events when accountable in front of an all male audience than when accountable in front of an all female audience. Female participants on the other hand perform approximately equally when accountable either in front of an all male audience or an all female audience.

This result is interesting inasmuch as it tells us something about gender differences in the real world, where accountability of some sort is usually present. It thus provides important insights into issues such as gender composition in the workplace, which are heavily debated at present. It is however not completely clear what the exact effect of accountability is on the decisions of men and women, unless one statistically compares the results obtained under accountability to a baseline in which accountability is completely absent. In other words, the strong difference in decision making performance observed between men who are responsible in front of an all male audience and men who are responsible in front of an all female audience may be due to the fact that the latter fails to trigger accountability; it may however also be due to the fact that men's decisions are impaired in front of a female audience while being unaffected by a male audience. And do women perform equally under the two accountability regimes because accountability is not effective, or because accountability has the same effect regardless of the audience?

In this comment I provide some supplementary evidence on these issues. Using data from the exact same experimental task, I statistically compare the effect of accountability in front of a male audience to a baseline treatment in which subjects are anonymous. This permits me to determine the underlying mechanisms driving the results found by Brandts & Garofalo (2011). I find that their results are driven mainly by the fact that women's performance does not change under accountability relative to an unaccountable baseline. While males and females perform approximately equally when they are unaccountable, male participants accountable in front of a

male audience perform significantly better, in the sense that they choose the superior simple event much more often. Looking however at the time taken to complete the task, women and men both take longer to complete the task under accountability relative to the control condition, thus suggesting that accountability has an effect on women, which does however not translate into superior decisions. I conclude with a discussion of the result based on the activation of different norms of behavior.

2. Gender Effects for Choices Between Simple and Compound Prospects

People have been known to be affected by biases in the evaluation of probabilities of simple versus compound events (Bar-Hillel, 1973). A simple event such as drawing a red ball from an urn containing 50 red balls and 50 black balls to win a prize is compared to a conjunctive event such as drawing 7 red balls in succession with replacement from an urn containing 90 red balls and 10 black ones to win the same prize. Subjects were asked to choose between such simple and compound prospects identical to those used by Brandts & Garofalo (2011). Experimental details are discussed in Vieider (2011). We will here focus only on gender effects which have not previously been reported.

Of 166 subjects, 97 were male and 69 female. Women on average chose the superior simple event less often than men ($Z=3.258$; $p=0.0017^1$), with a mean of 2.21 choices of the simple event by women compared to 3.18 by men. The outright conclusion that women's decisions are more biased than men's seems however hasty when one looks at the gender differences split up by accountability regime (figure 1). Indeed, for unaccountable subjects there is no difference in choices between men and women ($Z=1.018$, $p=0.309$). Under accountability on the other hand, women succumb to the bias far more often than men ($Z=3.038$, $p=0.0024$), a result that derives entirely from the improved decisions taken by men. Indeed, the effect of accountability is strongly significant for men ($Z=3.712$, $p=0.0002$) while it is not significant for women ($Z=0.678$, $p=0.4970$); these two effect sizes are significantly different ($Z=1.99$, $p=0.047$). Also, under accountability only 9% of women consistently choose the superior simple even, while 29% of men do so ($z = -2.06$, $p=0.039$).

¹ All test statistics reported are Mann-Whitney tests and all p-values are two-sided, unless specified otherwise.

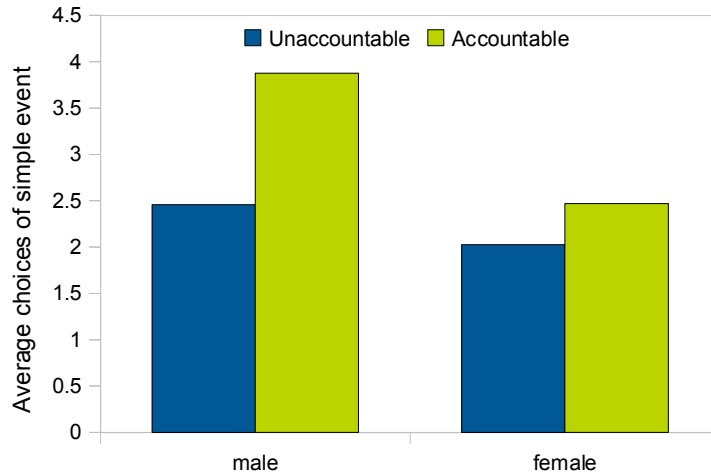


Fig. 1: Effects of accountability by gender

This evidence allows us to uncover what lies behind the findings of Brandts & Garofalo (2011). The reason why men perform better when accountable in front of a male audience is that their decisions improve relative to the baseline of no accountability. Women on the other hand underperform because their performance is unaffected by accountability, and not because both types of audiences affect their decisions equally². The reasons behind this differential reactions of men and women to accountability pressures can however not be deduced from the data. Indeed, one possibility is that men do react to accountability while women are utterly unaffected by it. Another possibility is that accountability has different effects on actual decisions, and while men and women both feel the psychological pressure, such pressure results in different outcomes. I try and provide some evidence on this point next.

Brandts & Garofalo also measure heart rates and blood pressure to investigate decision makers' reaction to the psychological stress induced by accountability. While they find men to change blood pressure when paired with a female audience, they do not find any significant difference in either measure for female respondents. I use time employed to complete the task in order to measure reactions to accountability pressures. As we may expect, men are found to take much longer to complete the task under conditions of accountability than in the control treatment

² Brandts & Garofalo present a different view in stating how “females underperform in the control sessions respect to both the treatment with male and female audience”. The statistical evidence presented here however rather indicates that performance under accountability is no different than in the baseline.

($Z=3.52$, $p=0.004$), which goes to show that the accountability manipulation induces them to think more carefully about the task. Surprisingly however, I find the same effect for women, and the effect is even stronger ($Z=4.77$, $p=0.0000$). Trautmann, Vieider, & Wakker (2008) found that women and men do not score any differently on Leary's (1983) scale measuring fear of negative evaluation ($t(61)=0.167$, $p=0.87$). It seems thus that accountability pressure does affect women, something that Brandts & Garofalo could not detect if the effect is the same independently of the audience. There remains however the fact that for women accountability does not lead to better decision making. Some possible causes of this will be discussed below.

3. Concluding remarks

Brandts & Garofalo (2011) report data according to which subjects are affected differently by accountability depending on the gender composition of the audience. Men perform better in front of an all male audience than an all female audience; women's performance does not differ according to the gender composition of the audience. I supplement this evidence by showing that men's performance is indeed improved under accountability in front of a male audience as compared to a baseline without accountability. I also show that accountability does not affect women's performance at all, thus excluding the potential explanation that their performance is affected equally by both types of audiences.

An potential explanation of differential accountability effects could lie in differing underlying personality traits such as social anxiety, evaluation apprehension, or fear of negative evaluation (Watson & Friend, 1969), such that men are affected by accountability pressures whereas women do not feel such pressures. This simple explanation seems however ruled out by results on some underlying variables. Indeed, I find that men take much longer to reach a decision when accountable than when they are not; however, this is also true for women, and the effect is even stronger. Also, men and women seem not to differ in terms of personality traits that are thought to be activated under accountability. The issue thus rather seems to lie in the translation of the accountability pressure into better decisions. While it is not clear from the data why this may happen, I quickly discuss some potential explanations.

One possibility for the differential effect of accountability in this task concerns the conformation to gender stereotypes on mathematical ability. Picking the decision alternative

providing a higher probability of winning requires some calculations, as well as knowledge of the calculation rule to be used. If accountability activates a stereotype threat (Steele, 1997) that presumes women's mathematical abilities to be weak (Hyde, Fennema, & Lamon, 1990) they may conform to such a stereotype and not launch into calculations. A decision based on a calculation or method that turns out to be wrong would be embarrassing; better then to come up with some other procedure that can be more easily justified regardless of the outcome.

Alternatively, such gender stereotypes may activate anxiety (Steele & Aronson, 1995), which has been shown to impair performance for complicated tasks (Geen, 1991). Such an explanation is testable, since it would predict that tasks usually showing a strong effect of accountability but not requiring any calculations should not show any gender differences. Measuring loss aversion under accountability and in its absence, Vieider (2009) found accountability to be equally effective in reducing the bias for both men and women. That task did indeed require no calculations, with the accountability effect resting on whether subjects perceive loss aversion as a bias when held accountable and thus try to correct it.

There remains one other potential explanation to be discussed. It is possible that there are different subjective perceptions of what constitutes a good decision making process—or indeed a good decision—in the choice context presented by the experiment³. To the extent that different decision-making norms could be activated for men and women under accountability, accountability may produce a different final decision outcome while still activating deeper thought processes in both. In this respect it is interesting that accountability results in increased choices of the simple prospect in men only when responsible in front of an all male audience.

All of these explanations are of course highly speculative at this point. It is left to future research to uncover the underlying reasons for the interesting decision making pattern uncovered by Brandts & Garofalo. The authors conclude their paper by pointing out the desirability of studying “the interaction of gender and audience using decision tasks different from the one used in this paper”. I hope that the additional results presented here may help in selecting tasks that help identifying the underlying mechanisms driving the findings for this decision task.

3 I am indebted to Dan Houser for pointing out this possibility.

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